OCTOBER 1982 NUMBER 458 -- Part I

P-A STACKS

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# Solar-Geophysical Data prompt reports

Data for September 1982, August 1982 & Late Data

Explanation of Data Reports Issued as Number 450 (Supplement) February 1982

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# Solar - Geophysical Data

NO. 458 OCTOBER 1982

## Part I (Prompt Reports)

DATA FOR
SEPTEMBER 1982
AUGUST 1982

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**BOULDER, COLORADO**

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# SOLAR-GEOPHYSICAL DATA

No. 458

*Issued in two parts*

Helen E. Coffey, Editor

Joe H. Allen, Chief
Solar-Terrestrial Physics Division

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---- = no data available.
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# ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

**SEPTEMBER 1982**

SUMMARY OF THE GEOALERT WWA MESSAGES

| Message serial number | Date of issue | Date of observation | Wolf number | 10 cm solar flux | A index | Active Regions: Location Lat-Long | No. of Flares: Total | M | X | Outstanding events | Forecasts: Date | Location Lat-Long | Desc* | Alert Situations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 244 | 01 | 31 | 176 | 177 | 013 | N24W94 | 3 | 0 | 0 | | 01 | N24W94 | E | SOLQUIET |
| | | | | | | N15W83 | 0 | 0 | 0 | | | N15W83 | E | MAGQUIET |
| | | | | | | N09W55 | 2 | 0 | 0 | | | N09W55 | Q | |
| | | | | | | N07W37 | 0 | 0 | 0 | | | N07W37 | Q | |
| | | | | | | N07W18 | 0 | 0 | 0 | | | N07W18 | Q | |
| | | | | | | S15E09 | 1 | 0 | 0 | | | S15E09 | Q | |
| | | | | | | N11E14 | 1 | 0 | 0 | | | N11E14 | E | |
| | | | | | | S03E38 | 0 | 0 | 0 | | | S03E38 | E | |
| | | | | | | S20E38 | 1 | 0 | 0 | | | S20E38 | Q | |
| | | | | | | N11E62 | 1 | 0 | 0 | | | N11E62 | Q | |
| | | | | | | N14E83 | 0 | 0 | 0 | | | N14E83 | Q | |
| 245 | 02 | 01 | 167 | 182 | 010 | N15W94 | 0 | 0 | 0 | | 02 | N15W94 | Q | SOLALERT MINOR 02/XX |
| | | | | | | N08W68 | 2 | 0 | 0 | | | N08W68 | Q | MAGALERT MINOR 04 |
| | | | | | | N07W50 | 0 | 0 | 0 | | | N07W50 | Q | |
| | | | | | | N05W21 | 0 | 0 | 0 | | | N05W21 | Q | |
| | | | | | | S15W04 | 0 | 0 | 0 | | | S15W04 | Q | |
| | | | | | | N10E00 | 1 | 0 | 0 | | | N10E00 | E | |
| | | | | | | S04E25 | 3 | 0 | 0 | | | S04E25 | Q | |
| | | | | | | S20E26 | 1 | 0 | 0 | | | S20E26 | E | |
| | | | | | | N11E48 | 0 | 0 | 0 | | | N11E48 | Q | |
| | | | | | | N14E67 | 3 | 1 | 0 | | | N14E67 | E | |
| 246 | 03 | 02 | 173 | 169 | 016 | N09W83 | 2 | 0 | 0 | | 03 | N09W83 | Q | SOLALERT MINOR 03/04 |
| | | | | | | N08W65 | 0 | 0 | 0 | | | N08W65 | Q | MAGNIL |
| | | | | | | N06W35 | 0 | 0 | 0 | | | N06W35 | Q | |
| | | | | | | S15W18 | 0 | 0 | 0 | | | S15W18 | Q | |
| | | | | | | N13W14 | 0 | 0 | 0 | | | N13W14 | Q | |
| | | | | | | S04E12 | 2 | 0 | 0 | | | S04E12 | Q | |
| | | | | | | S20E12 | 5 | 0 | 0 | | | S20E12 | E | |
| | | | | | | N10E35 | 0 | 0 | 0 | | | N10E35 | Q | |
| | | | | | | N14E53 | 8 | 0 | 0 | | | N14E53 | A | |
| 247 | 04 | 03 | 209 | 173 | 022 | N08W76 | 0 | 0 | 0 | Presto Soflare | 04 | N08W76 | Q | SOLALERT 04/XX |
| | | | | | | N07W49 | 4 | 0 | 0 | M6/2B N13E40 | | N07W49 | Q | MAGQUIET |
| | | | | | | S14W34 | 0 | 0 | 0 | 03/2344Z Duration | | S14W34 | Q | |
| | | | | | | N17W29 | 0 | 0 | 0 | 120 Minutes | | N17W29 | Q | |
| | | | | | | N10W27 | 0 | 0 | 0 | | | N10W27 | Q | |
| | | | | | | N27W12 | 0 | 0 | 0 | | | N27W12 | Q | |
| | | | | | | S03W02 | 0 | 0 | 0 | | | S03W02 | Q | |
| | | | | | | S20W01 | 3 | 0 | 0 | | | S20W01 | E | |
| | | | | | | N11E22 | 1 | 0 | 0 | | | N11E22 | Q | |
| | | | | | | N14E40 | 4 | 0 | 0 | | | N14E40 | E | |
| | | | | | | S09E67 | 0 | 0 | 0 | | | S09E67 | Q | |
| | | | | | | N07E80 | 0 | 0 | 0 | | | N07E80 | Q | |
| 248 | 05 | 04 | 250 | 188 | 028 | S13W76 | 0 | 0 | 0 | | 05 | S13W76 | Q | SOLALERT 05/XX |
| | | | | | | N06W63 | 4 | 0 | 0 | | | N06W63 | E | MAGALERT 07/08 FLARE |
| | | | | | | S15W47 | 0 | 0 | 0 | | | S15W47 | Q | |
| | | | | | | N16W42 | 0 | 0 | 0 | | | N16W42 | Q | |
| | | | | | | N09W40 | 0 | 0 | 0 | | | N09W40 | Q | |
| | | | | | | N26W26 | 0 | 0 | 0 | | | N26W26 | Q | |
| | | | | | | S03W16 | 0 | 0 | 0 | | | S03W16 | Q | |
| | | | | | | S21W15 | 7 | 0 | 0 | | | S21W15 | E | |
| | | | | | | N25W03 | 0 | 0 | 0 | | | N25W03 | Q | |
| | | | | | | N10E09 | 1 | 0 | 0 | | | N10E09 | Q | |
| | | | | | | N14E26 | 5 | 2 | 0 | | | N14E26 | A | |
| | | | | | | S10E54 | 0 | 0 | 0 | | | S10E54 | Q | |
| | | | | | | N05E67 | 1 | 0 | 0 | | | N05E67 | Q | |
| | | | | | | N16E76 | 0 | 0 | 0 | | | N16E76 | Q | |
| 249 | 06 | 05 | 240 | 177 | 028 | N06W74 | 2 | 0 | 0 | Presto Proton | 06 | N06E74 | E | SOLALERT 06/XX |
| | | | | | | S15W60 | 2 | 0 | 0 | event began | | S15W60 | Q | MAGALET MINOR 06/07 |
| | | | | | | N16W56 | 2 | 0 | 0 | 05/2205Z 10 Protons | | N16W56 | Q | |
| | | | | | | N09W55 | 0 | 0 | 0 | SSC 51 Gamma | | N09W55 | Q | |
| | | | | | | N26W39 | 0 | 0 | 0 | 05/2251Z | | N26W39 | Q | |
| | | | | | | S03W33 | 0 | 0 | 0 | | | S03W33 | Q | |
| | | | | | | S20W28 | 4 | 0 | 0 | | | S20W28 | E | |
| | | | | | | N10W04 | 0 | 0 | 0 | | | N10E04 | E | |
| | | | | | | S09E11 | 0 | 0 | 0 | | | S09E11 | Q | |
| | | | | | | N14E14 | 3 | 0 | 0 | | | N14E14 | A | |
| | | | | | | S09E41 | 0 | 0 | 0 | | | S09E41 | Q | |
| | | | | | | N06E54 | 0 | 0 | 0 | | | N06E54 | Q | |
| | | | | | | N17E63 | 0 | 0 | 0 | | | N17E63 | Q | |
| | | | | | | S09E74 | 0 | 0 | 0 | | | S09E74 | Q | |
| 250 | 07 | 06 | 211 | 169 | 140 | N06W90 | 1 | 0 | 0 | Presto Soflare | 07 | N06W90 | E | SOLALERT 07/08 |
| | | | | | | S15W73 | 0 | 0 | 0 | M2/2B N14E12 | | S15W73 | Q | MAGALERT 07 |
| | | | | | | N16W69 | 0 | 0 | 0 | 06/0145Z Duration | | N16W69 | Q | |
| | | | | | | N25W49 | 0 | 0 | 0 | 29 Minutes.Tenflare | | N25W49 | Q | |
| | | | | | | S02W49 | 0 | 0 | 0 | 300 Flux Units | | S02W49 | Q | |
| | | | | | | S20W43 | 3 | 0 | 0 | 06/0149Z Duration | | S20W43 | E | |
| | | | | | | N19W19 | 0 | 0 | 0 | 11 Minutes. Strong | | N19W19 | Q | |
| | | | | | | N11W17 | 0 | 0 | 0 | Magstorm in | | N11W17 | E | |
| | | | | | | N13W01 | 5 | 1 | 0 | Progress 06/0000Z. | | N13W01 | A | |
| | | | | | | S09E27 | 0 | 0 | 0 | | | S09E27 | Q | |
| | | | | | | N06E41 | 0 | 0 | 0 | | | N06E41 | Q | |
| | | | | | | N16E50 | 0 | 0 | 0 | | | N16E50 | Q | |
| | | | | | | S10E60 | 2 | 0 | 0 | | | S10E60 | E | |

# ALERT PERIODS

## INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

**SEPTEMBER 1982**

SUMMARY OF THE GEOALERT WWA MESSAGES

| Message serial number | Date of issue | Date of observation | Wolf number | 10 cm solar flux | A index | Active Regions | | | | Outstanding events | Forecasts | | | Alert Situations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Location Lat-Long | No. of Flares Total | M | X | | Date | Location Lat-Long | Desc[a] | |
| 251 | 08 | 07 | 204 | 174 | 048 | S14W88 | 0 | 0 | 0 | | 08 | S14W88 | Q | SOLNIL |
| | | | | | | N25W68 | 2 | 0 | 0 | | | N25W68 | Q | MAGNIL |
| | | | | | | S01W64 | 0 | 0 | 0 | | | S01W64 | Q | |
| | | | | | | S20W58 | 2 | 0 | 0 | | | S20W58 | E | |
| | | | | | | N20W34 | 2 | 0 | 0 | | | N20W34 | Q | |
| | | | | | | N11W32 | 5 | 0 | 0 | | | N11W32 | Q | |
| | | | | | | N14W14 | 1 | 0 | 0 | | | N14W14 | Q | |
| | | | | | | N21W06 | 0 | 0 | 0 | | | N21W06 | Q | |
| | | | | | | S09E13 | 0 | 0 | 0 | | | S09E13 | Q | |
| | | | | | | N05E28 | 0 | 0 | 0 | | | N05E28 | Q | |
| | | | | | | S10E48 | 3 | 0 | 0 | | | S10E48 | E | |
| 252 | 09 | 08 | 173 | 176 | 009 | N26W82 | 2 | 0 | 0 | | 09 | N26W82 | E | SOLQUIET |
| | | | | | | S01W77 | 0 | 0 | 0 | | | S01W77 | Q | MAGQUIET |
| | | | | | | S20W71 | 1 | 0 | 0 | | | S20W71 | E | |
| | | | | | | N20W46 | 5 | 0 | 0 | | | N20W46 | E | |
| | | | | | | N11W45 | 2 | 0 | 0 | | | N11W45 | E | |
| | | | | | | N14W27 | 4 | 0 | 0 | | | N14W27 | E | |
| | | | | | | S09W02 | 0 | 0 | 0 | | | S09W02 | Q | |
| | | | | | | S11E08 | 0 | 0 | 0 | | | S11E08 | Q | |
| | | | | | | N05E14 | 0 | 0 | 0 | | | N05E14 | Q | |
| | | | | | | S10E35 | 4 | 0 | 0 | | | S10E35 | E | |
| 253 | 10 | 09 | 117 | 177 | 034 | S20W84 | 1 | 0 | 0 | Presto Strong SSC | 10 | S20W84 | E | SOLQUIET |
| | | | | | | N11W59 | 9 | 0 | 0 | Observed 09/0105Z | | N11W59 | E | MAGQUIET |
| | | | | | | S15W53 | 0 | 0 | 0 | | | S15W53 | Q | |
| | | | | | | N14W41 | 0 | 0 | 0 | | | N14W41 | E | |
| | | | | | | S11W05 | 0 | 0 | 0 | | | S11W05 | Q | |
| | | | | | | N05E01 | 0 | 0 | 0 | | | N05E01 | Q | |
| | | | | | | S10E21 | 3 | 0 | 0 | | | S10E21 | A | |
| | | | | | | S12E77 | 4 | 0 | 0 | | | S12E77 | Q | |
| 254 | 11 | 10 | 123 | 163 | 012 | N09W72 | 1 | 0 | 0 | | 11 | N09W72 | E | SOLALERT 11/12 |
| | | | | | | N11W55 | 0 | 0 | 0 | | | N11W55 | E | MAGQUIET |
| | | | | | | S11W18 | 0 | 0 | 0 | | | S11W18 | Q | |
| | | | | | | N06W13 | 0 | 0 | 0 | | | N06W13 | Q | |
| | | | | | | N10W06 | 0 | 0 | 0 | | | N10W06 | Q | |
| | | | | | | S10E07 | 2 | 0 | 0 | | | S10E07 | E | |
| | | | | | | S21E14 | 0 | 0 | 0 | | | S21E14 | Q | |
| | | | | | | S12E66 | 5 | 0 | 0 | | | S12E66 | Q | |
| 255 | 12 | 11 | 119 | 119 | 012 | N11W86 | 1 | 0 | 0 | | 12 | N11W86 | E | SOLNIL |
| | | | | | | N12W68 | 0 | 0 | 0 | | | N12W68 | Q | MAGALERT 12/XX |
| | | | | | | S13W29 | 0 | 0 | 0 | | | S13W29 | Q | |
| | | | | | | N05W26 | 0 | 0 | 0 | | | N05W26 | Q | |
| | | | | | | S10W05 | 0 | 0 | 0 | | | S10W05 | E | |
| | | | | | | S21E01 | 9 | 0 | 0 | | | S21E01 | E | |
| | | | | | | S12E52 | 4 | 0 | 0 | | | S12E52 | E | |
| 256 | 13 | 12 | 126 | 152 | 013 | N12W88 | 0 | 0 | 0 | | 13 | N12W88 | Q | SOLQUIET |
| | | | | | | S12W45 | 0 | 0 | 0 | | | S12W45 | Q | MAGNIL |
| | | | | | | N05W40 | 0 | 0 | 0 | | | N05W40 | Q | |
| | | | | | | S08W28 | 0 | 0 | 0 | | | S08W28 | Q | |
| | | | | | | S10W19 | 3 | 0 | 0 | | | S10W19 | E | |
| | | | | | | S22W11 | 2 | 0 | 0 | | | S22W11 | E | |
| | | | | | | S12E39 | 0 | 0 | 0 | | | S12E39 | E | |
| | | | | | | S13E73 | 1 | 0 | 0 | | | S13E73 | Q | |
| 257 | 14 | 13 | 160 | 149 | 016 | S13W59 | 1 | 0 | 0 | | 14 | S13W59 | Q | SOLQUIET |
| | | | | | | N05W54 | 0 | 0 | 0 | | | N05W54 | Q | MAGQUIET |
| | | | | | | S10W32 | 3 | 0 | 0 | | | S10W32 | E | |
| | | | | | | S22W25 | 0 | 0 | 0 | | | S22W25 | E | |
| | | | | | | S13E26 | 1 | 0 | 0 | | | S13E26 | Q | |
| | | | | | | N02E57 | 0 | 0 | 0 | | | N02E57 | Q | |
| | | | | | | S16E61 | 3 | 0 | 0 | | | S16E61 | Q | |
| | | | | | | S09E82 | 1 | 0 | 0 | | | S09E82 | Q | |
| | | | | | | N19E86 | 0 | 0 | 0 | | | N19E86 | Q | |
| 258 | 15 | 14 | 149 | 146 | 012 | S13W75 | 0 | 0 | 0 | | 15 | S13W75 | Q | SOLQUIET |
| | | | | | | N05W67 | 0 | 0 | 0 | | | N05W67 | Q | MAGQUIET |
| | | | | | | S10W45 | 1 | 0 | 0 | | | S10W45 | Q | |
| | | | | | | S23W38 | 1 | 0 | 0 | | | S23W38 | Q | |
| | | | | | | S13E13 | 0 | 0 | 0 | | | S13E13 | Q | |
| | | | | | | N02E43 | 3 | 0 | 0 | | | N02E43 | Q | |
| | | | | | | S15E44 | 1 | 0 | 0 | | | S15E44 | Q | |
| | | | | | | S10E66 | 0 | 0 | 0 | | | S10E66 | Q | |
| | | | | | | N18E72 | 2 | 0 | 0 | | | N18E72 | Q | |
| 259 | 16 | 15 | 161 | 149 | 013 | N04W81 | 0 | 0 | 0 | Presto Soflare | 16 | N04W81 | Q | SOLQUIET |
| | | | | | | S10W59 | 0 | 0 | 0 | M2/2B N17E60 | | S10W59 | Q | MAGQUIET |
| | | | | | | S22W51 | 0 | 0 | 0 | 15/1816Z Duration | | S22W51 | Q | |
| | | | | | | N17W07 | 0 | 0 | 0 | 22 Minutes.Tenflare | | N17W07 | Q | |
| | | | | | | S13E01 | 2 | 0 | 0 | 190 Flux Units | | S13E01 | Q | |
| | | | | | | N01E30 | 0 | 0 | 0 | 15/1822Z Duration | | N01E30 | Q | |
| | | | | | | S16E31 | 2 | 0 | 0 | 5 Minutes. | | S16E31 | Q | |
| | | | | | | S10E54 | 0 | 0 | 0 | | | S10E54 | Q | |
| | | | | | | N18E60 | 6 | 1 | 0 | | | N18E60 | E | |
| | | | | | | N14E73 | 0 | 0 | 0 | | | N14E73 | Q | |
| 260 | 17 | 16 | 181 | 146 | 011 | S10W75 | 0 | 0 | 0 | | 17 | S10W75 | Q | SOLQUIET |
| | | | | | | S23W68 | 0 | 0 | 0 | | | S23W68 | Q | MAGQUIET |

# ALERT PERIODS

## INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

**SEPTEMBER 1982**

SUMMARY OF THE GEOALERT WWA MESSAGES

| Message serial number | Date of issue | Date of observation | Wolf number | 10 cm solar flux | A index | Active Regions: Location Lat-Long | No. of Flares: Total | M | X | Outstanding events | Forecasts: Date | Location Lat-Long | Desc* | Alert Situations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | N08W28 | 0 | 0 | 0 | | | N08W28 | Q | |
| | | | | | | N18W20 | 0 | 0 | 0 | | | N18W20 | Q | |
| | | | | | | S13W14 | 0 | 0 | 0 | | | S13W14 | Q | |
| | | | | | | N02E16 | 0 | 0 | 0 | | | N02E16 | Q | |
| | | | | | | S16E16 | 2 | 0 | 0 | | | S16E16 | Q | |
| | | | | | | S10E40 | 0 | 0 | 0 | | | S10E40 | Q | |
| | | | | | | N19E47 | 1 | 0 | 0 | | | N19E47 | E | |
| | | | | | | N14E60 | 1 | 0 | 0 | | | N14E60 | Q | |
| 261 | 18 | 17 | 205 | 150 | 012 | S10W85 | 0 | 0 | 0 | | 18 | S10W85 | Q | SOLQUIET |
| | | | | | | S23W81 | 0 | 0 | 0 | | | S23W81 | Q | MAGQUIET |
| | | | | | | N17W33 | 0 | 0 | 0 | | | N17W33 | Q | |
| | | | | | | S14W31 | 0 | 0 | 0 | | | S14W31 | Q | |
| | | | | | | N02E04 | 0 | 0 | 0 | | | N02E04 | Q | |
| | | | | | | S16E05 | 1 | 0 | 0 | | | S16E05 | Q | |
| | | | | | | S11E28 | 0 | 0 | 0 | | | S11E28 | Q | |
| | | | | | | N20E33 | 1 | 0 | 0 | | | N20E33 | E | |
| | | | | | | N14E47 | 1 | 0 | 0 | | | N14E47 | Q | |
| 262 | 19 | 18 | 131 | 142 | 018 | N17W47 | 0 | 0 | 0 | | 19 | N17W47 | Q | SOLQUIET |
| | | | | | | N01W11 | 1 | 0 | 0 | | | N01W11 | Q | MAGQUIET |
| | | | | | | S16W11 | 1 | 0 | 0 | | | S16W11 | Q | |
| | | | | | | S10E13 | 1 | 0 | 0 | | | S10E13 | Q | |
| | | | | | | N19E21 | 5 | 0 | 0 | | | N19E21 | Q | |
| | | | | | | N14E34 | 1 | 0 | 0 | | | N14E34 | Q | |
| 263 | 20 | 19 | 156 | 137 | 018 | N16W60 | 0 | 0 | 0 | Presto Soflare | 20 | N16W60 | Q | SOLQUIET |
| | | | | | | S16W26 | 2 | 0 | 0 | C9/2B S16E03 | | S16W26 | Q | MAGQUIET |
| | | | | | | N02W24 | 0 | 0 | 0 | 19/1546Z Duration | | N02W24 | Q | |
| | | | | | | S11E00 | 4 | 0 | 0 | 200 Minutes.Tenflare | | S11E00 | Q | |
| | | | | | | N19E07 | 0 | 0 | 0 | 140 Flux Units | | N19E07 | Q | |
| | | | | | | S10E22 | 0 | 0 | 0 | 19/1505Z Duration | | S10E22 | Q | |
| | | | | | | N15E23 | 6 | 0 | 0 | 20 Minutes. | | N15E23 | Q | |
| | | | | | | S08E33 | 0 | 0 | 0 | | | S08E33 | Q | |
| 264 | 21 | 20 | 167 | 146 | 017 | N18W71 | 0 | 0 | 0 | | 21 | N18W71 | Q | SOLQUIET |
| | | | | | | S17W37 | 0 | 0 | 0 | | | S17W37 | Q | MAGALERT MINOR 21/22 |
| | | | | | | S12W12 | 3 | 0 | 0 | | | S12W12 | E | |
| | | | | | | N19W05 | 1 | 0 | 0 | | | N19W05 | Q | |
| | | | | | | S09E03 | 0 | 0 | 0 | | | S09E03 | Q | |
| | | | | | | N14E09 | 1 | 0 | 0 | | | N14E09 | E | |
| | | | | | | N16E14 | 0 | 0 | 0 | | | N16E14 | Q | |
| | | | | | | S08E20 | 0 | 0 | 0 | | | S08E20 | Q | |
| 265 | 22 | 21 | 154 | 144 | 044 | S16W52 | 0 | 0 | 0 | Presto 21/0630Z | 22 | S16W52 | Q | SOLQUIET |
| | | | | | | S12W25 | 0 | 0 | 0 | Magstorm 21/0340Z | | S12W25 | E | MAGALERT MINOR 22 |
| | | | | | | N19W19 | 1 | 0 | 0 | | | N19W19 | E | |
| | | | | | | N13W07 | 2 | 0 | 0 | | | N13W07 | Q | |
| | | | | | | N16E02 | 0 | 0 | 0 | | | N16E02 | Q | |
| | | | | | | S08E06 | 0 | 0 | 0 | | | S08E06 | Q | |
| | | | | | | N18E11 | 0 | 0 | 0 | | | N18E11 | Q | |
| 266 | 23 | 22 | 151 | 145 | 073 | S15W66 | 0 | 0 | 0 | Presto Strong | 23 | S15W66 | Q | SOLQUIET |
| | | | | | | S11W39 | 4 | 0 | 0 | Magstorm in progress | | S11W39 | Q | MAGALERT MINOR 23 |
| | | | | | | N20W32 | 2 | 0 | 0 | 22/0631Z | | N20W32 | Q | |
| | | | | | | N13W19 | 7 | 0 | 0 | | | N13W19 | Q | |
| | | | | | | N16W13 | 0 | 0 | 0 | | | N16W13 | Q | |
| | | | | | | S08W08 | 1 | 0 | 0 | | | S08W08 | Q | |
| | | | | | | S18E56 | 0 | 0 | 0 | | | S18E56 | Q | |
| | | | | | | N14E77 | 0 | 0 | 0 | | | N14E77 | Q | |
| 267 | 24 | 23 | 151 | 152 | 021 | S15W80 | 0 | 0 | 0 | | 24 | S15W80 | Q | SOLQUIET |
| | | | | | | S13W52 | 0 | 0 | 0 | | | S13W52 | Q | MAGNIL |
| | | | | | | N19W46 | 1 | 0 | 0 | | | N19W46 | Q | |
| | | | | | | N14W31 | 2 | 0 | 0 | | | N14W31 | Q | |
| | | | | | | S09W22 | 0 | 0 | 0 | | | S09W22 | Q | |
| | | | | | | N17E08 | 0 | 0 | 0 | | | N17E08 | Q | |
| | | | | | | S19E45 | 0 | 0 | 0 | | | S19E45 | Q | |
| | | | | | | S10E63 | 1 | 0 | 0 | | | S10E63 | Q | |
| | | | | | | N14E64 | 1 | 0 | 0 | | | N14E64 | Q | |
| 268 | 25 | 24 | 191 | 166 | 015 | S13W67 | 1 | 0 | 0 | | 25 | S13W67 | Q | SOLQUIET |
| | | | | | | N19W60 | 2 | 0 | 0 | | | N19W60 | Q | MAGQUIET |
| | | | | | | N15W44 | 1 | 0 | 0 | | | N15W44 | E | |
| | | | | | | S09W35 | 1 | 0 | 0 | | | S09W35 | Q | |
| | | | | | | N16W29 | 0 | 0 | 0 | | | N16W29 | Q | |
| | | | | | | S06W21 | 0 | 0 | 0 | | | S06W21 | Q | |
| | | | | | | N17W07 | 0 | 0 | 0 | | | N17W07 | Q | |
| | | | | | | S18E30 | 0 | 0 | 0 | | | S18E30 | Q | |
| | | | | | | S08E49 | 5 | 0 | 0 | | | S08E49 | Q | |
| | | | | | | N15E51 | 0 | 0 | 0 | | | N15E51 | Q | |
| | | | | | | N15E70 | 0 | 0 | 0 | | | N15E70 | E | |
| | | | | | | S20E73 | 0 | 0 | 0 | | | S20E73 | Q | |
| | | | | | | S02E80 | 0 | 0 | 0 | | | S02E80 | Q | |
| 269 | 26 | 25 | 176 | 170 | 010 | S12W83 | 0 | 0 | 0 | | 26 | S12W83 | Q | SOLQUIET |
| | | | | | | N20W72 | 1 | 0 | 0 | | | N20W72 | Q | MAGQUIET |
| | | | | | | N14W60 | 0 | 0 | 0 | | | N14W60 | Q | |
| | | | | | | S10W48 | 0 | 0 | 0 | | | S10W48 | Q | |
| | | | | | | S06W35 | 0 | 0 | 0 | | | S06W35 | Q | |

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SEPTEMBER 1982

SUMMARY OF THE GEOALERT WWA MESSAGES

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | S18E16 | 0 | 0 | 0 | | | S18E16 | Q | |
| | | | | | | N17E37 | 0 | 0 | 0 | | | N17E37 | Q | |
| | | | | | | S09E38 | 1 | 0 | 0 | | | S09E38 | Q | |
| | | | | | | N14E56 | 3 | 0 | 0 | | | N14E56 | Q | |
| | | | | | | S20E61 | 0 | 0 | 0 | | | S20E61 | Q | |
| | | | | | | S03E68 | 1 | 0 | 0 | | | S03E68 | Q | |
| | | | | | | S19E73 | 0 | 0 | 0 | | | S19E73 | Q | |
| 270 | 27 | 26 | 223 | 186 | 040 | N16W87 | 2 | 0 | 0 | | 27 | N16W87 | Q | SOLALERT PIANO 27/XX |
| | | | | | | N14W78 | 0 | 0 | 0 | | | N14W78 | Q | MAGALERT 27 |
| | | | | | | S10W62 | 0 | 0 | 0 | | | S10W62 | Q | |
| | | | | | | S06W47 | 0 | 0 | 0 | | | S06W47 | Q | |
| | | | | | | S11W23 | 0 | 0 | 0 | | | S11W23 | Q | |
| | | | | | | S18E04 | 0 | 0 | 0 | | | S18E04 | Q | |
| | | | | | | S11E25 | 3 | 0 | 0 | | | S11E25 | Q | |
| | | | | | | N15E27 | 7 | 1 | 0 | | | N15E27 | A | |
| | | | | | | N14E43 | 5 | 0 | 0 | | | N14E43 | E | |
| | | | | | | S21E45 | 0 | 0 | 0 | | | S21E45 | Q | |
| | | | | | | S03E55 | 1 | 0 | 0 | | | S03E55 | E | |
| | | | | | | S19E58 | 0 | 0 | 0 | | | S19E58 | Q | |
| | | | | | | N10E67 | 0 | 0 | 0 | | | N10E67 | Q | |
| 271 | 28 | 27 | 191 | 191 | 036 | S06W60 | 0 | 0 | 0 | | 28 | S06W60 | Q | SOLALERT |
| | | | | | | S10W36 | 1 | 0 | 0 | | | S10W36 | Q | MAGNIL |
| | | | | | | S17W09 | 0 | 0 | 0 | | | S17W09 | Q | |
| | | | | | | S11E11 | 3 | 0 | 0 | | | S11E11 | E | |
| | | | | | | N16E14 | 2 | 0 | 0 | | | N16E14 | E | |
| | | | | | | N15E29 | 5 | 0 | 0 | | | N15E29 | E | |
| | | | | | | S20E32 | 0 | 0 | 0 | | | S20E32 | Q | |
| | | | | | | S02E43 | 1 | 0 | 0 | | | S02E43 | Q | |
| | | | | | | S18E46 | 1 | 0 | 0 | | | S18E46 | Q | |
| | | | | | | N10E52 | 1 | 0 | 0 | | | N10E52 | Q | |
| 272 | 29 | 28 | 204 | 196 | 018 | S17W24 | 1 | 0 | 0 | | 29 | S17W24 | Q | SOLNIL |
| | | | | | | S11W03 | 2 | 0 | 0 | | | S11W03 | E | MAGQUIET |
| | | | | | | N16E01 | 1 | 0 | 0 | | | N16E01 | E | |
| | | | | | | N14E17 | 5 | 0 | 0 | | | N14E17 | E | |
| | | | | | | N28E19 | 0 | 0 | 0 | | | N28E19 | Q | |
| | | | | | | S20E26 | 0 | 0 | 0 | | | S20E26 | Q | |
| | | | | | | S03E30 | 1 | 0 | 0 | | | S03E30 | Q | |
| | | | | | | S09E39 | 0 | 0 | 0 | | | S09E39 | Q | |
| 273 | 30 | 29 | 234 | 204 | 012 | S18W39 | 1 | 0 | 0 | Presto Tenflare | 30 | S18W39 | Q | SOLALERT 30 |
| | | | | | | S09W22 | 1 | 0 | 0 | 160 Flux Units | | S09W22 | Q | MAGQUIET |
| | | | | | | S10W14 | 8 | 0 | 0 | 28/2331Z Duration | | S10W14 | E | |
| | | | | | | N17W12 | 0 | 0 | 0 | 1 minute | | N17W12 | E | |
| | | | | | | N14E03 | 8 | 0 | 0 | | | N14E03 | E | |
| | | | | | | N28E05 | 0 | 0 | 0 | | | N28E05 | Q | |
| | | | | | | S18E13 | 1 | 0 | 0 | | | S18E13 | Q | |
| | | | | | | S02E15 | 1 | 0 | 0 | | | S02E15 | Q | |
| 274 | 01 | 30 | 183 | 202 | 012 | S18W52 | 1 | 0 | 0 | Presto Tenflare | 01 | S18W52 | Q | SOLALERT 01/03 |
| | | | | | | S10W36 | 0 | 0 | 0 | 210 Flux Units | | S10W36 | Q | MAGALERT MINOR 01/03 |
| | | | | | | N15W26 | 2 | 0 | 0 | 30/0134Z Duration | | N15W26 | E | |
| | | | | | | S12W26 | 5 | 0 | 0 | 16 Minutes. Soflare | | S12W26 | E | |
| | | | | | | N14W11 | 10 | 1 | 0 | M3/1B N16E06 | | N14W11 | A | |
| | | | | | | S19W00 | 1 | 0 | 0 | 30/0132Z Duration | | S19W00 | Q | |
| | | | | | | S02E01 | 1 | 0 | 0 | 46 Minutes. | | S02E01 | Q | |

A=Active C=Caution D=Doubtful E=Eruptive MF=Major Flare OG=Other Groups P=Proton Q=Quiet

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

04 SEPTEMBER 1982 BOULDER 04/0145Z SOFLARE M6/2B N13E40 03/2344Z DURATION 120 MINUTES
05 SEPTEMBER 1982 BOULDER 05/2323Z PROTON EVENT BEGAN AT 05/2205Z 23 PROTONS CM2/SEC/STER AT GREATER THAN 10 MEV
06 SEPTEMBER 1982 BOULDER 06/0224Z SOFLARE M2/2B N14E12 06/0145Z DURATION 29 MINUTES
06 SEPTEMBER 1982 BOULDER 06/0224Z TENFLARE 300 FLUX UNITS 06/0149Z DURATION 11 MINUTES
06 SEPTEMBER 1982 TOYOKAWA 06/0225Z TENFLARE 500 FLUX UNITS 06/0148Z DURATION 10 MINUTES
06 SEPTEMBER 1982 BOULDER 06/0344Z STRONG MAGSTORM IN PROGRESS 06/0000Z
09 SEPTEMBER 1982 SYDNEY 09/0150Z STRONG SSC OBSERVED 09/0105Z
15 SEPTEMBER 1982 BOULDER 15/1920Z SOFLARE M2/2B N17E60 15/1816Z DURATION 22 MINUTES
15 SEPTEMBER 1982 BOULDER 15/1920Z TENFLARE 190 FLUX UNITS 15/1816Z DURATION 5 MINUTES
19 SEPTEMBER 1982 BOULDER 19/1801Z SOFLARE C9/2B S16E03 19/1546Z DURATION 200 MINUTES
19 SEPTEMBER 1982 BOULDER 19/2300Z TENFLARE 140 FLUX UNITS 19/1505Z DURATION 20 MINUTES
21 SEPTEMBER 1982 KAKIOKA 21/0630Z MAGSTORM 21/0340Z
22 SEPTEMBER 1982 BOULDER 22/1320Z STRONG MAGSTORM IN PROGRESS 22/0631Z
29 SEPTEMBER 1982 TOYOKAWA 29/0100Z TENFLARE 160 FLUX UNITS 28/2331Z DURATION 1 MINUTE
30 SEPTEMBER 1982 TOYOKAWA 30/0208Z TENFLARE 210 FLUX UNITS 30/0134Z DURATION 16 MINUTES
30 SEPTEMBER 1982 BOULDER 30/0200Z SOFLARE M3/1B N16E06 30/0132Z DURATION 46 MINUTES

# RELATIVE SUNSPOT NUMBERS

## INTERNATIONAL, $R_I$

| | 1981 FINAL | | | 1982 FINAL | | | 1982 PROVISIONAL | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
| 1 | 216 | 165 | 193 | 92 | 258 | 168 | 145 | 63 | 70 | 50 | 55 | 115 |
| 2 | 206 | 222 | 197 | 94 | 241 | 174 | 115 | 57 | 83 | 41 | 68 | 124 |
| 3 | 219 | 218 | 212 | 112 | 232 | 175 | 151 | 46 | 94 | 33 | 68 | 146 |
| 4 | 189 | 221 | 212 | 109 | 221 | 177 | 137 | 58 | 104 | 42 | 81 | 176 |
| 5 | 195 | 233 | 219 | 112 | 219 | 163 | 112 | 63 | 111 | 50 | 97 | 160 |
| 6 | 169 | 199 | 234 | 86 | 230 | 165 | 117 | 64 | 108 | 32 | 128 | 141 |
| 7 | 171 | 192 | 244 | 94 | 226 | 146 | 130 | 69 | 115 | 33 | 144 | 117 |
| 8 | 185 | 184 | 249 | 97 | 232 | 140 | 131 | 89 | 127 | 49 | 150 | 115 |
| 9 | 177 | 134 | 258 | 98 | 211 | 116 | 132 | 47 | 142 | 61 | 161 | 100 |
| 10 | 144 | 147 | 253 | 85 | 181 | 122 | 138 | 53 | 147 | 110 | 155 | 81 |
| 11 | 131 | 146 | 263 | 46 | 158 | 119 | 152 | 58 | 138 | 146 | 157 | 86 |
| 12 | 123 | 160 | 240 | 52 | 156 | 135 | 142 | 75 | 144 | 177 | 138 | 78 |
| 13 | 171 | 158 | 185 | 51 | 162 | 155 | 148 | 78 | 139 | 219 | 113 | 81 |
| 14 | 187 | 178 | 159 | 58 | 142 | 153 | 136 | 58 | 137 | 222 | 100 | 104 |
| 15 | 212 | 139 | 113 | 81 | 134 | 140 | 127 | 52 | 125 | 234 | 100 | 129 |
| 16 | 223 | 126 | 66 | 76 | 111 | 156 | 122 | 69 | 128 | 263 | 86 | 133 |
| 17 | 219 | 103 | 80 | 111 | 120 | 180 | 108 | 76 | 136 | 272 | 93 | 127 |
| 18 | 210 | 108 | 79 | 139 | 103 | 168 | 91 | 89 | 134 | 220 | 105 | 107 |
| 19 | 189 | 90 | 74 | 143 | 107 | 167 | 87 | 110 | 134 | 200 | 91 | 117 |
| 20 | 183 | 82 | 57 | 134 | 119 | 160 | 93 | 112 | 139 | 180 | 77 | 104 |
| 21 | 145 | 82 | 65 | 134 | 120 | 153 | 91 | 98 | 143 | 129 | 79 | 102 |
| 22 | 145 | 73 | 75 | 121 | 100 | 146 | 109 | 121 | 146 | 99 | 90 | 95 |
| 23 | 118 | 65 | 86 | 93 | 97 | 144 | 138 | 107 | 116 | 74 | 71 | 97 |
| 24 | 109 | 59 | 68 | 70 | 120 | 122 | 145 | 110 | 112 | 27 | 79 | 109 |
| 25 | 101 | 60 | 62 | 82 | 128 | 152 | 149 | 88 | 92 | 25 | 101 | 118 |
| 26 | 92 | 60 | 100 | 119 | 136 | 147 | 150 | 117 | 94 | 37 | 98 | 138 |
| 27 | 75 | 77 | 104 | 125 | 154 | 182 | 126 | 130 | 49 | 22 | 104 | 133 |
| 28 | 92 | 130 | 136 | 168 | 163 | 179 | 90 | 108 | 36 | 19 | 120 | 140 |
| 29 | 131 | 148 | 132 | 216 | | 169 | 85 | 102 | 32 | 23 | 132 | 144 |
| 30 | 152 | 165 | 112 | 211 | | 162 | 75 | 66 | 38 | 38 | 134 | 160 |
| 31 | 156 | | 126 | 237 | | 132 | | 89 | | 54 | 109 | |
| MEAN | 162.4 | 137.5 | 150.1 | 111.2 | 163.6 | 153.8 | 122.5 | 81.4 | 110.4 | 102.6 | 105.9 | 119.2 |

1981 Yearly Mean = 140.4
Zurich $R_Z$ sunspot number replaced by international $R_I$ sunspot number beginning with January 1981 data.
Errata to SGD, 456 Part I, page 8, August issue: mean $R_I$ should be 102.6 and not 026.

# DAILY SOLAR FLUX AT 2800 MHz
# OTTAWA ARO

## FLUX ADJUSTED TO 1 A.U., $S_a$

| | 1981 | | | 1982 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
| 1 | 210.6* | 222.5* | 230.7* | 179.9 | 284.8* | 231.3 | 172.2* | 151.7 | 134.2 | 106.5 | 123.4 | 184.3* |
| 2 | 204.8* | 241.3* | 230.3* | 177.2 | 279.7* | 228.3 | 172.0* | 147.4 | 135.1 | 106.9 | 138.2* | 168.7* |
| 3 | 196.5 | 255.3* | 238.6 | 176.1 | 272.9* | 230.1 | 169.9 | 147.7 | 141.5 | 109.4 | 153.5* | 171.0* |
| 4 | 191.1 | 263.1 | 241.7 | 170.4 | 252.8* | 238.3* | 158.2 | 144.7 | 158.2* | 111.5 | 167.3 | 188.1* |
| 5 | 193.6* | 254.1 | 260.0 | 165.5 | 245.2 | 245.4* | 159.9* | 148.7 | 156.6* | 114.1 | 180.9 | 179.4 |
| 6 | 200.3 | 244.6 | 262.1 | 166.8 | 245.2 | 230.0* | 165.2 | 153.0 | 149.6* | 121.3 | 201.2 | 172.1 |
| 7 | 204.1* | 241.4 | 275.6* | 166.9* | 239.9 | 228.3 | 164.0* | 151.0 | 158.6* | 128.2* | 219.6 | 176.8 |
| 8 | 200.7* | 234.7* | 287.8 | 156.9 | 245.1* | 207.1* | 162.1* | 150.8 | 167.3 | 150.3* | 217.5* | 178.5 |
| 9 | 205.4* | 232.6 | 292.4* | 164.4 | 231.7 | 192.2 | 167.3* | 139.8 | 177.4 | 176.6* | 212.5 | 179.2 |
| 10 | 213.4 | 231.0* | 278.7 | 145.7 | 213.7 | 178.9* | 177.1* | 130.7 | 196.0* | 203.5* | 209.5 | 165.6 |
| 11 | 220.0 | 217.0 | 266.7* | 136.3 | 211.1* | 178.2 | 178.7* | 132.3 | 224.2 | 226.4* | 205.0* | 158.3 |
| 12 | 236.8* | 223.5 | 254.2* | 132.4 | 204.0* | 181.2 | 177.5* | 132.3 | 238.3* | 239.7* | 195.2* | 152.5* |
| 13 | 256.2 | 215.9 | 218.9 | 127.5 | 194.9* | 185.5 | 170.9 | 129.8 | 240.2 | 252.6* | 182.9* | 151.3 |
| 14 | 275.6 | 207.4 | 193.0 | 130.5 | 185.3 | 201.3 | 157.9 | 132.2 | 240.8 | 269.2* | 176.8 | 147.4 |
| 15 | 287.1 | 191.2 | 172.6 | 136.3 | 180.3 | 207.6* | 152.2 | 132.1 | 235.8 | 274.0 | 173.0 | 149.0* |
| 16 | 302.4 | 181.2 | 157.4 | 146.7 | 170.5 | 227.7 | 148.2 | 139.0 | 210.6* | 269.4* | 161.4 | 147.3 |
| 17 | 302.9 | 172.7 | 144.2 | 152.6 | 162.5 | 230.4 | 145.9* | 142.2* | 206.0* | 273.3 | 165.1 | 147.0* |
| 18 | 296.5* | 160.8* | 136.3* | 167.6 | 165.7 | 226.8 | 147.0 | 146.8 | 200.7* | 247.2* | 166.4* | 143.2 |
| 19 | 278.6 | 157.0 | 129.7 | 169.4 | 170.9* | 219.7* | 145.1 | 155.9 | 207.5 | 234.7 | 159.2 | 142.6* |
| 20 | 257.8* | 152.0 | 133.9 | 167.0 | 171.3 | 217.0 | 144.2 | 155.6* | 207.1 | 196.5 | 144.7 | 146.9 |
| 21 | 238.2 | 153.9 | 142.2 | 163.3 | 165.2 | 212.4 | 145.2 | 165.4* | 210.7 | 173.7* | 138.6 | 145.4 |
| 22 | 218.6 | 152.7 | 145.9 | 152.9 | 163.7 | 213.7 | 156.9* | 158.8 | 197.2* | 149.5* | 138.8 | 146.2 |
| 23 | 208.2 | 151.9 | 153.0 | 148.0 | 173.1 | 202.4 | 175.2 | 155.7* | 187.3 | 128.5 | 141.2 | 152.6* |
| 24 | 201.1 | 150.4 | 156.1* | 149.1 | 185.9* | 189.0 | 181.0 | 144.8* | 168.2 | 117.8 | 142.9 | 165.4* |
| 25 | 186.0 | 159.1 | 162.1 | 169.3* | 184.1 | 189.9 | 182.6* | 145.7 | 159.1* | 108.2 | 158.5 | 170.3 |
| 26 | 172.0 | 178.3* | 166.2 | 182.7* | 204.0 | 192.8* | 178.3 | 158.0 | 142.3 | 102.1 | 166.4 | 187.3 |
| 27 | 171.2 | 190.3 | 176.8 | 197.2 | 222.1 | 195.4* | 167.3 | 171.5* | 127.6 | 97.8 | 180.4 | 191.4 |
| 28 | 182.4 | 206.4* | 183.0 | 234.7 | 224.0 | 200.6 | 161.0* | 171.3* | 123.1 | 96.4 | 181.4 | 196.9 |
| 29 | 187.5 | 226.5* | 183.6 | 267.0 | . | 198.0 | 155.6 | 170.9* | 111.7 | 97.5 | 183.4 | 204.6 |
| 30 | 201.5 | 231.6 | 185.7 | 284.5 | . | 194.5* | 149.8* | 142.8 | 108.5 | 112.4 | 174.5 | 202.4 |
| 31 | 207.1 | . | 182.8 | 289.1 | . | 184.1 | . | 136.7 | . | 114.4 | 175.0* | . |
| MEAN | 222.8 | 203.3 | 201.4 | 173.4 | 208.9 | 208.3 | 162.9 | 147.9 | 177.4 | 164.8 | 172.1 | 167.1 |

* adjusted for burst
A = interpolated data point

# DAILY SOLAR INDICES

SEPTEMBER 1982

| DAY OF MONTH | YEAR DAY | BARTELS 27-DAY CYCLE NUMBER | PROVISIONAL SUNSPOT NUMBERS | | OBSERVED FLUX | SOLAR FLUX ADJUSTED TO 1 A.U. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | $R_I$ | $R_{A'}$ | OTTAWA 2800 | AFGL 15400 | AFGL 8800 | AFGL 4995 | OTTAWA 2800 | AFGL 2695 | AFGL 1415 | AFGL 606 | AFGL 410 | AFGL 245 |
| 1 | 244 | 21 | 115 | 121 | 181.0* | 592 | 311 | 215 | 184.3* | 174 | 166 | 115 | 46 | 24 |
| 2 | 245 | 22 | 124 | 136 | 165.7* | 585 | 294 | 196 | 168.7* | 142 | 152 | 102 | 40 | 17 |
| 3 | 246 | 23 | 146 | 161 | 168.1* | 586 | 292 | 187 | 171.0* | 162 | 147 | 112 | 41 | 16 |
| 4 | 247 | 24 | 176 | 166 | 185.0* | 588 | 291 | 209 | 188.1* | 208 | 165 | 116 | 43 | 20 |
| 5 | 248 | 25 | 160 | 159 | 176.6 | 577 | 289 | 195 | 179.4 | 159 | 159 | 110 | 42 | 18 |
| 6 | 249 | 26 | 141 | 144 | 169.4 | | 292 | 184 | 172.1 | 143 | 150 | 108 | 40 | 17 |
| 7 | 250 | 27 | 117 | 119 | 174.2 | | 307 | 188 | 176.8 | 149 | 153 | 108 | 43 | 17 |
| 8 | 251 | 1 | 115 | 116 | 175.9 | | 301 | 220 | 178.5 | 165 | 158 | 115 | 41 | 19 |
| 9 | 252 | 2 | 100 | 91 | 176.7 | | 299 | 191 | 179.2 | 176 | 159 | 119 | 43 | 21 |
| 10 | 253 | 3 | 81 | 83 | 163.3 | 585 | 280 | 176 | 165.6 | 118 | 146 | 106 | 42 | 17 |
| 11 | 254 | 4 | 86 | 85 | 156.3 | 574 | 281 | 174 | 158.3 | 140 | 146 | 105 | 40 | 13 |
| 12 | 255 | 5 | 78 | 80 | 150.5* | | | | 152.5* | | | | | |
| 13 | 256 | 6 | 81 | 89 | 149.4 | 565 | | | 151.3 | | | 93 | 39 | 20 |
| 14 | 257 | 7 | 104 | 104 | 145.5 | | | | 147.4 | | | | | |
| 15 | 258 | 8 | 129 | 130 | 147.4* | 553 | 290 | 168 | 149.0* | 160 | 123 | | | |
| 16 | 259 | 9 | 133 | 130 | 145.7 | 562 | 280 | 169 | 147.3 | 146 | 135 | | | |
| 17 | 260 | 10 | 127 | 126 | 145.5* | 581 | 277 | 166 | 147.0* | 142 | 144 | | | |
| 18 | 261 | 11 | 107 | 111 | 141.9 | 575 | 273 | 176 | 143.2 | 156 | 130 | 94 | 38 | 16 |
| 19 | 262 | 12 | 117 | 106 | 141.3* | 598 | 306 | 188 | 142.6* | 155 | 153 | 116 | 55 | 93 |
| 20 | 263 | 13 | 104 | 104 | 145.7 | 548 | 275 | 171 | 146.9 | 140 | 130 | 93 | 40 | 16 |
| 21 | 264 | 14 | 102 | 92 | 144.2 | | 278 | 169 | 145.4 | 130 | 132 | 91 | 37 | 13 |
| 22 | 265 | 15 | 95 | 96 | 145.2 | 562 | 275 | 169 | 146.2 | 146 | 135 | 90 | 37 | 6 |
| 23 | 266 | 16 | 97 | 100 | 151.5* | 566 | 287 | 180 | 152.6* | 149 | 141 | 88 | 35 | 16 |
| 24 | 267 | 17 | 109 | 112 | 164.4* | | | | 165.4* | | | | | |
| 25 | 268 | 18 | 118 | 115 | 169.5 | 568 | 293 | 183 | 170.3 | 167 | 150 | 106 | 41 | 14 |
| 26 | 269 | 19 | 138 | 130 | 186.4 | | 309 | 210 | 187.3 | 181 | 160 | 107 | 42 | 15 |
| 27 | 270 | 20 | 133 | 132 | 190.6 | 555 | 298 | 203 | 191.4 | 182 | 176 | 105 | 54 | 30 |
| 28 | 271 | 21 | 140 | 138 | 196.1 | | | | 196.9 | | | | | |
| 29 | 272 | 22 | 144 | 149 | 204.0 | 576 | 301 | 219 | 204.6 | 193 | 177 | 123 | 60 | 47 |
| 30 | 273 | 23 | 160 | 155 | 201.8 | 573 | 302 | 220 | 202.4 | 202 | 181 | 123 | 49 | 25 |
| MEAN | | | 119.2 | 119.3 | 165.3 | 573 | 291 | 189 | 167.1 | 159 | 151 | 106 | 42 | 22 |

*Adjusted for burst.
Data gaps in AFGL Sagamore Hill data are due to equipment problems.
Errata to SGD, 456 Part I, page 9, August issue: mean R sub I should be 102.6 and not 026;
mean R sub A prime should be 105.1 and not 051.

# OBSERVED AND PREDICTED SOLAR ACTIVITY INDICES

| | SUNSPOT NUMBERS | | | | | | 2800 MHz FLUX Adjusted to 1 AU | |
|---|---|---|---|---|---|---|---|---|
| | Rz or $R_I$ | | Ra | | Rs | | Sa | |
| Date | Monthly Mean | Smoothed | Monthly Mean | Smoothed | Monthly Mean | Smoothed | Monthly Mean | Smoothed |
| Oct 79 | 186.2 | 158 | 178.2 | 144 | 171.7 | 145 | 216.4 | 192 |
| Nov | 183.3 | 162 | 176.5 | 149 | 182.9 | 149 | 226.8 | 196 |
| Dec | 176.3 | 164 | 157.6 | 152 | 151.0 | 152 | 197.2 | 199 |
| Jan 80 | 159.6 | 164 | 145.3 | 153 | 153.6 | 154 | 199.6 | 200 |
| Feb | 155.0 | 163 | 133.9 | 154 | 148.7 | 155 | 195.1 | 200 |
| Mar | 126.2 | 161 | 107.9 | 153 | 117.8 | 153 | 166.5 | 200 |
| Apr | 164.1 | 159 | 138.5 | 151 | 164.0 | 152 | 209.3 | 198 |
| May | 179.7 | 156 | 172.3 | 149 | 185.4 | 151 | 229.1 | 197 |
| Jun | 157.3 | 155 | 153.6 | 149 | 153.2 | 151 | 199.3 | 198 |
| Jul | 136.3 | 153 | 136.0 | 144 | 144.1 | 151 | 190.8 | 197 |
| Aug | 135.4 | 150 | 133.0 | 144 | 121.9 | 150 | 170.3 | 196 |
| Sep | 155.0 | 150 | 150.0 | 146 | 138.8 | 152 | 185.9 | 198 |
| Oct | 164.7 | 150 | 160.8 | 149 | 157.1 | 154 | 202.9 | 200 |
| Nov | 147.9 | 148 | 149.9 | 149 | 168.5 | 153 | 213.4 | 199 |
| Dec | 174.4 | 143 | 167.5 | 145 | 174.3 | 150 | 218.8 | 196 |
| Jan 81 | 114.0 | 140 | 115.4 | 144 | 120.5 | 149 | 169.0 | 195 |
| Feb | 141.3 | 142 | 143.7 | 146 | 153.5 | 152 | 199.5 | 198 |
| Mar | 135.5 | 143 | 149.2 | 149 | 157.5 | 156 | 203.2 | 202 |
| Apr | 156.4 | 143 | 169.2 | 149 | 180.7 | 158 | 224.7 | 204 |
| May | 127.5 | 143 | 141.3 | 149 | 152.8 | 159 | 198.9 | 204 |
| Jun | 90.9 | 142 | 99.0 | 147 | 112.9 | 158 | 161.9 | 203 |
| Jul | 143.8 | 140 | 154.3 | 146 | 152.1 | 157 | 198.2 | 203 |
| Aug | 158.7 | 141 | 170.4 | 147 | 182.1 | 158 | 226.0 | 203 |
| Sep | 167.3 | 143 | 174.5 | 148 | 177.7 | 158 | 221.9 | 204 |
| Oct | 162.4 | 142* | 157.0 | 146 | 178.6 | 156 | 222.8 | 202 |
| Nov | 137.5 | 139* | 138.8 | 142 | 157.6 | 151 | 203.3 | 197 |
| Dec | 150.1 | 138* | 145.0 | 140 | 155.5 | 149 | 201.4 | 195 |
| Jan 82 | 111.2 | 137* | 110.4 | 139 | 124.2 | 148 | 173.4 | 195 |
| Feb | 163.6 | 133* | 161.0 | 134 | 163.6 | 144 | 208.9 | 191 |
| Mar | 153.8 | 129* | 155.5 | 131 | 163.0 | 139 | 208.3 | 186 |
| Apr | 122.5† | 125(+ 4)* | 121.9 | 128 | 113.9 | 136 | 162.9 | --- |
| May | 81.4† | 122(+ 7)* | 82.6 | 124 | 97.7 | 131 | 147.9 | --- |
| Jun | 110.4† | 118(±10)* | 113.5 | 119 | 129.6 | 127 | 177.4 | --- |
| Jul | 102.6† | 112(±11)* | 113.3 | 114 | 116.0 | 121 | 164.8 | --- |
| Aug | 105.9† | 107(±10)* | 110.5 | 108 | 123.9 | 114 | 172.1 | --- |
| Sep | 119.2† | 101(±10)* | --- | 103 | 118.5 | 108 | 167.1 | --- |
| Oct | --- | 95(+ 9)* | --- | 96 | --- | 101 | --- | --- |
| Nov | --- | 90(+ 9)* | --- | 92 | --- | 96 | --- | --- |
| Dec | --- | 86(±10)* | --- | 88 | --- | 92 | --- | --- |
| Jan 83 | --- | 82(±10)* | --- | 83 | --- | 87 | --- | --- |
| Feb | --- | 80(±11)* | --- | 81 | --- | 84 | --- | --- |
| Mar | --- | 78(±11)* | --- | 79 | --- | 83 | --- | --- |

*An asterisk denotes either a value of the observed 12-month running mean or a predicted 12-month average that is based on preliminary observations of the international relative sunspot number ($R_I$). Parentheses enclose the 90% confidence limits. Shaded boxes enclose the most recent smoothed values; boxes not shaded enclose predicted values. Ra is the new symbol for $R_A$'. All tabulated entries of Ra are final values.

†$R_I$ replaces $R_Z$ as of January 1981.

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS FOR CYCLE 21

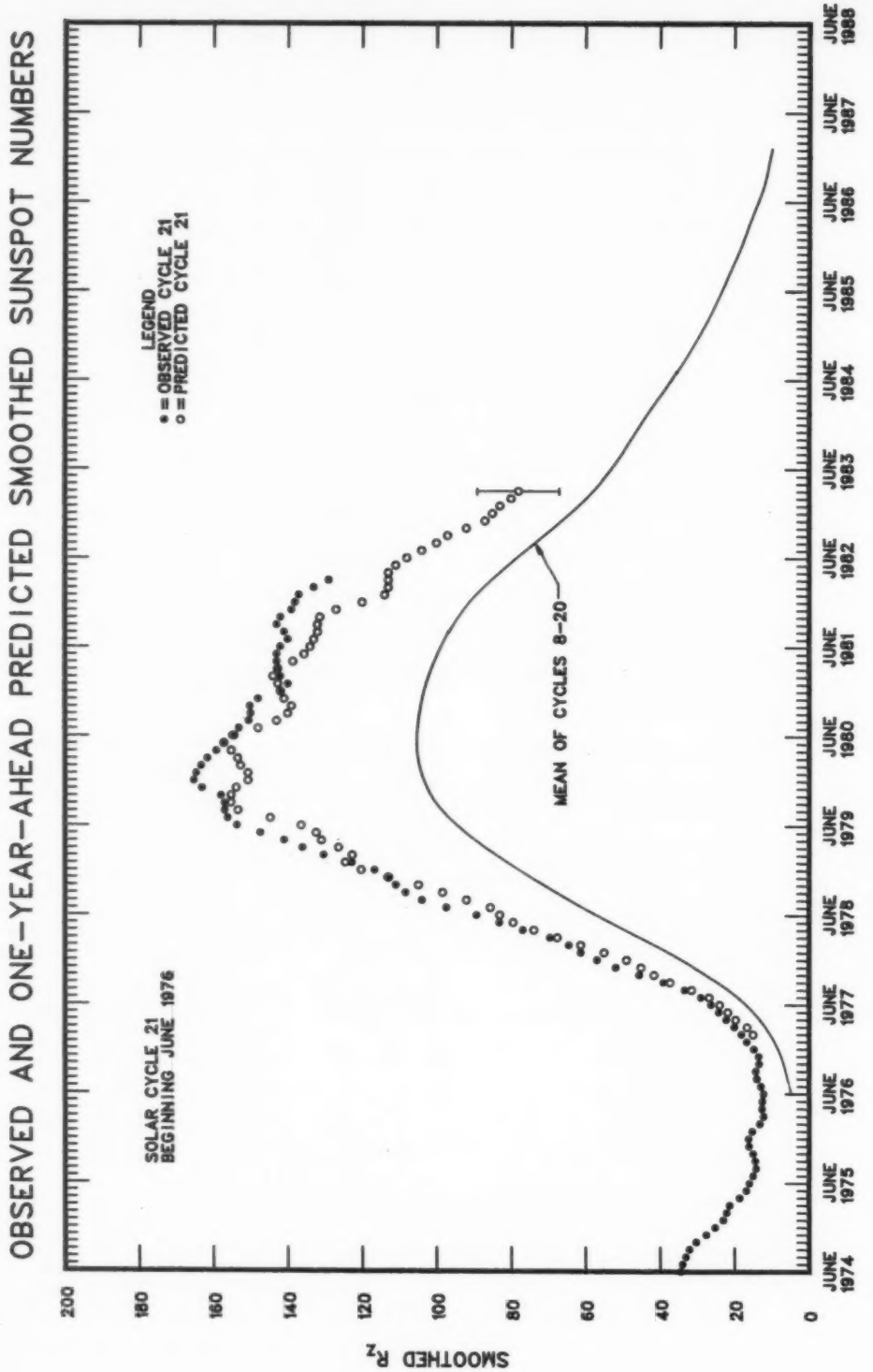
| MONTH | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 15 | 13 | 12 | 13 | 13 | 12 | 13 | 14 | 14 | 13 | 14 | 15 |
| 1977 | 17 | 18 | 20 | 22 | 24 | 26 | 29 | 33 | 39 | 46 | 52 | 57 |
| 1978 | 61 | 65 | 70 | 77 | 83 | 89 | 97 | 104 | 108 | 111 | 113 | 118 |
| 1979 | 124 | 131 | 137 | 141 | 147 | 153 | 155 | 155 | 156 | 158 | 162 | 165* |
| 1980 | 164 | 163 | 161 | 159 | 156 | 155 | 153 | 150 | 150 | 150 | 148 | 143 |
| 1981 | 140 | 142 | 143 | 143 | 143 | 142 | 140 | 141 | 143 | 142 | 139 | 138 |
| 1982 | 137 | 133 | 129 | 125 | 122 | 118 | 112 | 107 | 101 | 95 | 90 | 86 |
| | | | | ( 4) | ( 7) | (10) | (11) | (10) | (10) | ( 9) | ( 9) | (10) |
| 1983 | 82 | 80 | 78 | 76 | 74 | 71 | 70 | 69 | 68 | 68 | 68 | 67 |
| | (10) | (11) | (11) | (12) | (13) | (15) | (16) | (18) | (20) | (21) | (21) | (22) |
| 1984 | 66 | 63 | 59 | 55 | 53 | 52 | 51 | 49 | 41 | 45 | 43 | 41 |
| | (22) | (23) | (24) | (25) | (27) | (28) | (28) | (29) | (28) | (27) | (27) | (26) |
| 1985 | 39 | 38 | 38 | 37 | 36 | 34 | 32 | 31 | 31 | 30 | 29 | 29 |
| | (26) | (25) | (25) | (25) | (24) | (24) | (22) | (21) | (21) | (22) | (23) | (23) |
| 1986 | 29 | 27 | 26 | 25 | 23 | 21 | 19 | 18 | 17 | 16 | 16 | 16 |
| | (23) | (23) | (23) | (22) | (21) | (21) | (20) | (19) | (18) | (16) | (15) | (13) |
| 1987 | 15 | 15 | 15 | 16 | 17 | 18 | 20 | | | | | |
| | (12) | (12) | (12) | (13) | (14) | (15) | (15) | | | | | |

For the current solar cycle, this table gives observed smoothed sunspot numbers up to the one calculated from the last measured value. These smoothed observed values are based on final monthly mean Zurich numbers through 1980, on final international numbers through March 1982, and on provisional monthly mean international numbers thereafter. Some table entries after the June 1976 number will change slightly when final data for 1982 are incorporated.

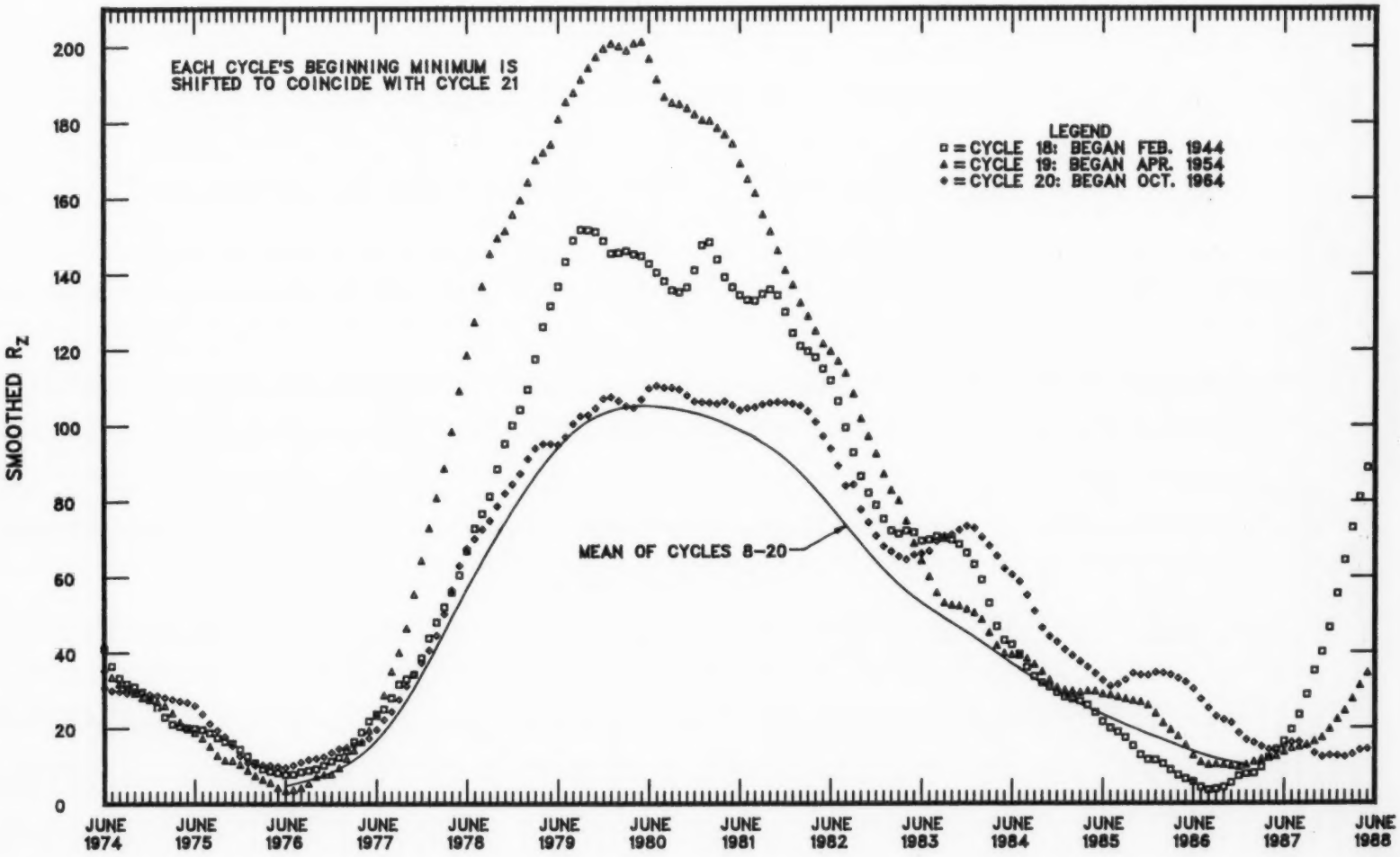
The entries with numbers in parentheses below them are predictions by the McNish-Lincoln method. (See page 10 in the February 1982 edition of the supplement to Solar-Geophysical Data.) By adding to and subtracting from each prediction the number in parentheses, one generates the 90% confidence interval--an interval centered on each prediction that has a 90% chance of containing the actual smoothed value.

The McNish-Lincoln prediction method generates meaningful estimates of smoothed sunspot numbers for no more than 12 months ahead. Beyond a year the predictions regress rapidly toward the mean of all 13 cycles of data used in the computation. Furthermore, the method is very sensitive to the date defined as the beginning of the current sunspot cycle, that is, to the date of the most recent sunspot minimum. In Solar-Geophysical Data, issues 390-401, we based the current cycle predictions on March 1976 as the end of cycle 20 and the onset of the new cycle 21. Later studies, including one published by M. Waldmeier, showed that June 1976 was more appropriately the minimum epoch. We therefore generated this table using the June 1976 date.

*MAXIMUM OF SUNSPOT CYCLE 21. The maximum smoothed sunspot number occurred in December 1979.


OBSERVED AND ONE-YEAR-AHEAD PREDICTED SMOOTHED SUNSPOT NUMBERS
SMOOTHED $R_Z$
200
180
160
140
120
100
80
60
40
20
0
JUNE 1974
JUNE 1975
JUNE 1976
JUNE 1977
JUNE 1978
JUNE 1979
JUNE 1980
JUNE 1981
JUNE 1982
JUNE 1983
JUNE 1984
JUNE 1985
JUNE 1986
JUNE 1987
JUNE 1988
SOLAR CYCLE 21
BEGINNING JUNE 1976
LEGEND
• = OBSERVED CYCLE 21
○ = PREDICTED CYCLE 21
MEAN OF CYCLES 8-20

# SUPERPOSITION OF CYCLES 18, 19, AND 20



# H - ALPHA S O L A R F L A R E S

## SEPTEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | Big Bear Plage Region | CMP Mo | CMP Day | Dur (Min) | Imp Opt | Imp Xray | Obs See | Obs Type | Area Measurement Time (UT) | Area Measurement Apparent ($10^{-6}$ Disk) | Area Measurement Corr (Sq Deg) | Remarks | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HOLL | 01 | 0032 | 0034 | 0038 | N06 | W53 | | 08 | 28.0 | 6 | SF | | 3 | C | | 26 | | | 3881 |
| HOLL | 01 | 0037 | 0038 | 0048D | S16 | E41 | | 09 | 4.1 | 11D | SF | | 3 | C | | 35 | | | 3883 |
| LEAR | 01 | 0731 | 0746 | 0928D | N11 | E78 | | 09 | 7.2 | 117D | 4B | | 3 | C | | | | ZUK | 3886 |
| LEAR | 01 | 0731 | 0859 | 0928D | N11 | E78 | | 09 | 7.2 | 117D | 2N | | 3 | C | | | | K | 3886 |
| YUNN | 01 | 0740E | 0751U | 0817D | N13 | E72 | | 09 | 6.8 | 37D | 3B | | | P | 0751 | 865 | | R | |
| BUCA | 01 | 0740 | 0744 | 0800 | N16 | E74 | | 09 | 6.9 | 20 | 3N | | | C | 0744 | 537 | | | |
| KAND | 01 | 0817E | 0908 | 0934 | N08 | E80 | | 09 | 7.3 | 77D | 1N | | | C | | | | ART | |
| LEAR | 01 | 0825 | 0827 | 0831 | S05 | E39 | | 09 | 4.3 | 6 | SF | | 3 | C | | 35 | | | 3882 |
| RAMY | 01 | 1136 | 1136 | 1146 | S03 | E36 | | 09 | 4.2 | 10 | SN | | 3 | C | | 36 | | | 3882 |
| HOLL | 01 | 1527 | 1527 | 1536 | N10 | W62 | | 08 | 28.0 | 9 | SF | | 3 | C | | 13 | | | 3881 |
| RAMY | 01 | 1550 | 1551 | 1551D | N19 | E67 | | 09 | 6.8 | 1D | SB | | 3 | C | | 17 | | | 3886 |
| HOLL | 01 | 1830 | 1830 | 1839 | N13 | E69 | | 09 | 7.0 | 9 | SF | | 3 | C | | 14 | | F | 3886 |
| HOLL | 01 | 2128 | 2129 | 2142 | S05 | E33 | | 09 | 4.4 | 14 | SN | | 3 | C | | 98 | | F | 3882 |
| BIGB | 01 | 2128 | 2130 | 2200 | S05 | E33 | 18551 | 09 | 4.4 | 32 | SN | | 3 | C | 2130 | 90 | 1.1 | | |
| BIGB | 02 | 0002 | 0003 | 0005 | S07 | E30 | 18551 | 09 | 4.3 | 3 | SF | | 3 | C | | 60 | .7 | | |
| PURP | 02 | 0052 | 0108U | 0133 | N08 | W66 | | 08 | 28.1 | 41 | SN | | | C | 0108 | 19 | | D | |
| PURP | 02 | 0130 | 0133 | 0138 | S06 | E30 | | 09 | 4.3 | 8 | SB | | | C | 0133 | 52 | .6 | E | |
| LEAR | 02 | 0133 | 0134 | 0141 | S05 | E31 | | 09 | 4.4 | 8 | SN | | 3 | C | | 32 | | F | 3882 |
| LEAR | 02 | 0148 | 0150 | 0156 | S18 | E21 | | 09 | 3.7 | 8 | SF | | 3 | C | | 21 | | | 3883 |
| LEAR | 02 | 0219 | 0222 | 0236 | S19 | E26 | | 09 | 4.1 | 17 | SF | | 3 | C | | 101 | | | 3883 |
| PURP | 02 | 0220 | 0222 | 0228 | S21 | E26 | | 09 | 4.1 | 8 | SN | | | C | 0222 | 26 | .3 | E | |
| PURP | 02 | 0301 | 0309 | 0314D | N17 | E70 | | 09 | 7.4 | 13D | SF | | | P | 0309 | 84 | | W | |
| LEAR | 02 | 0301 | 0301 | 0333 | N15 | E72 | | 09 | 7.6 | 32 | SF | | 3 | C | | 72 | | F | 3886 |
| LEAR | 02 | 0356 | 0400 | 0415 | N13 | E67 | | 09 | 7.2 | 19 | SF | | 3 | C | | 70 | | | 3886 |
| LEAR | 02 | 0357 | 0359 | 0418 | N09 | W67 | | 08 | 28.1 | 21 | SF | | 3 | C | | 17 | | | 3881 |
| LEAR | 02 | 0616 | 0617 | 0624 | N11 | E64 | | 09 | 7.1 | 8 | SF | | 3 | C | | 32 | | | 3886 |
| LEAR | 02 | 0701 | 0701 | 0722 | N14 | E60 | | 09 | 6.8 | 21 | SF | | 3 | C | | 16 | | | 3886 |
| LEAR | 02 | 0921 | 0924 | 0926D | N08 | W70 | | 08 | 28.1 | 5D | SF | | 3 | C | | 19 | | | 3881 |
| KAND | 02 | 1303 | 1322 | | N08 | E56 | | 09 | 6.8 | | 1B | | | C | | | | | |
| RAMY | 02 | 1318 | 1355 | 1736D | N14 | E58 | | 09 | 6.9 | 258D | 2N | | 3 | C | | 630 | | F | 3886 |
| KAND | 02 | 1324 | 1329D | | N08 | E60 | | 09 | 7.1 | | 1N | | | C | | | | | |
| RAMY | 02 | 1604 | 1607 | 1611 | S22 | E17 | | 09 | 4.0 | 7 | SF | | 3 | C | | 27 | | | 3883 |
| HOLL | 02 | 1826 | 1840 | 1940 | N16 | E58 | | 09 | 7.2 | 74 | 1N | | 3 | C | | 190 | | F | 3886 |
| BIGB | 02 | 1834 | 1842 | 1934 | N13 | E69 | 18551 | 09 | 8.0 | 60 | 1N | | 2 | C | 1842 | 130 | | | |
| HOLL | 02 | 1839 | 1852 | 1914 | S22 | E17 | | 09 | 4.1 | 35 | SF | | 3 | C | | 36 | | | 3883 |
| PALE | 02 | 2017E | 2033U | 2039D | S21 | E16 | | 09 | 4.1 | 22D | SF | | 3 | C | | 162 | | | 3883 |
| PALE | 02 | 2149 | 2159 | 2221 | N16 | E55 | | 09 | 7.1 | 32 | SN | | 3 | C | | 70 | | F | 3886 |
| PEKG | 02 | 2243E | 2243 | 2245 | N14 | E56 | | 09 | 7.2 | 2D | SF | | | C | 2243 | 21 | .4 | D | |
| PEKG | 02 | 2301 | 2301 | 2302D | S19 | E16 | | 09 | 4.2 | 1D | SF | | | P | 2301 | 29 | .4 | D | |
| PEKG | 02 | 2301E | 2301 | 2308 | N14 | E55 | | 09 | 7.1 | 7D | SF | | | C | 2301 | 17 | .3 | D | |
| LEAR | 02 | 2338 | 2338 | 2348 | N11 | E50 | | 09 | 6.8 | 10 | SF | | 2 | C | | 20 | | | 3886 |
| PEKG | 03 | 0026 | 0041 | 0045D | N10 | E37 | | 09 | 5.8 | 19D | 1N | | | C | 0041 | 336 | 4.3 | FU | |
| LEAR | 03 | 0116 | 0125 | 0234 | N15 | E53 | | 09 | 7.1 | 78 | 1N | | 3 | C | | 207 | | K | 3886 |
| LEAR | 03 | 0116 | 0200 | 0234 | N15 | E53 | | 09 | 7.1 | 78 | 1N | | 3 | C | | 201 | | F K | 3886 |
| PEKG | 03 | 0120 | 0122 | 0127 | N14 | E54 | | 09 | 7.1 | 7 | 1N | | | C | 0122 | 130 | 2.2 | E | |
| PURP | 03 | 0155 | 0158 | 0203D | N11 | E47 | | 09 | 6.6 | 8D | 1N | | | P | 0158 | 181 | 2.7 | | |
| YUNN | 03 | 0512 | 0514 | 0516D | N11 | E50 | | 09 | 7.0 | 4D | SN | | | P | | 47 | .7 | E | |
| LEAR | 03 | 0602 | 0604 | 0616 | S20 | E13 | | 09 | 4.3 | 14 | SF | | 3 | C | | 42 | | | 3883 |
| PEKG | 03 | 0606 | 0609 | 0617 | N15 | E51 | | 09 | 7.1 | 11 | SN | | | P | 0609 | 92 | 1.5 | E | |
| LEAR | 03 | 0609 | 0611 | 0626 | N14 | E49 | | 09 | 7.0 | 17 | SN | | 3 | C | | 63 | | UF | 3886 |
| KAND | 03 | 1205 | 1219 | | N08 | E48 | | 09 | 7.1 | | SF | | | C | | | | E | |
| RAMY | 03 | 1331 | 1406 | 1540 | N06 | W44 | | 08 | 31.3 | 129 | SN | | 3 | C | | 146 | | | 3887 |
| HOLL | 03 | 1359 | 1404 | 1437D | N08 | W44 | | 08 | 31.3 | 38D | SF | | 3 | C | | 59 | | F | 3887 |
| RAMY | 03 | 1400 | 1506 | 1535 | N14 | E47 | | 09 | 7.1 | 95 | SN | | 3 | C | | 112 | | F | 3886 |
| HOLL | 03 | 1505 | 1505 | 1519 | N15 | E46 | | 09 | 7.1 | 14 | SN | | 3 | C | | 31 | | F | 3886 |
| RAMY | 03 | 1547 | 1550 | 1557 | N05 | W47 | | 08 | 31.1 | 10 | SF | | 3 | C | | 40 | | | 3887 |
| RAMY | 03 | 1608 | 1609 | 1622 | S18 | E03 | | 09 | 3.9 | 14 | SF | | 3 | C | | 88 | | | 3883 |
| HOLL | 03 | 1820 | 1821 | 1837 | S14 | W56 | | 08 | 30.5 | 17 | SF | | 3 | C | | 21 | | | 3878 |
| BIGB | 03 | 1834 | 1840 | 1907 | S20 | E02 | 18547 | 09 | 3.9 | 33 | SN | | 2 | C | 1840 | 100 | 1.0 | | |
| RAMY | 03 | 1836 | 1840 | 1904 | S21 | E04 | | 09 | 4.1 | 28 | SB | | 3 | C | | 190 | | | 3883 |
| PALE | 03 | 1837 | 1839 | 1853 | S20 | E02 | | 09 | 3.9 | 16 | SB | | 3 | C | | 114 | | | 3883 |
| HOLL | 03 | 1837 | 1839 | 1851 | S21 | E02 | | 09 | 3.9 | 14 | SN | | 3 | C | | 119 | | F | 3883 |
| HOLL | 03 | 1848 | 1851 | 1900 | S13 | W58 | | 08 | 30.4 | 12 | SF | | 3 | C | | 17 | | | 3878 |
| PALE | 03 | 1919 | 1923 | 1940 | N05 | W48 | | 08 | 31.2 | 21 | SN | | 3 | C | | 45 | | | 3887 |
| HOLL | 03 | 1921 | 1929 | 1944 | N06 | W48 | | 08 | 31.2 | 23 | SN | | 3 | C | | 37 | | | 3887 |
| LEAR | 03 | 2342 | 2344 | 0005 | N09 | E22 | | 09 | 5.6 | 23 | SN | | 3 | C | | 60 | | F | 3885 |
| HOLL | 03 | 2342 | 2344 | 2355 | N09 | E22 | | 09 | 5.6 | 13 | SN | | 3 | C | | 60 | | | 3885 |
| LEAR | 03 | 2344 | 0048 | 0336 | N10 | E36 | | 09 | 6.7 | 232 | 2B | | 3 | C | | 1061 | | ZUK | 3886 |
| LEAR | 03 | 2344 | 2350 | 0336 | N10 | E36 | | 09 | 6.7 | 232 | SN | | 3 | C | | 57 | | K | 3886 |

# H - ALPHA S O L A R F L A R E S

## SEPTEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | Big Bear Plage Region | CMP Mo | Day | Dur (Min) | Imp Opt | Xray | See | Obs Type | Time (UT) | Area Measurement Apparent ($10^{-6}$ Disk) | Corr (Sq Deg) | Remarks | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LEAR | 03 | 2358 | 2359 | 0012 | N06 | W51 | | 08 | 31.2 | 14 | SF | | 3 | C | | 31 | | | 3887 |
| HOLL | 04 | 0002 | 0002 | 0018 | N06 | W50 | | 08 | 31.3 | 16 | SF | | 3 | C | | 19 | | | 3887 |
| HOLL | 04 | 0026 | 0029 | 0029D | N13 | E38 | | 09 | 6.9 | 3D | 1B | | 3 | C | | 232 | | UE | 3886 |
| YUNN | 04 | 0033E | 0047 | 0155 | N11 | E39 | | 09 | 7.0 | 82D | 1B | | | P | | 362 | 4.8 | FUW | |
| PEKG | 04 | 0229 | 0234 | 0243 | N06 | W63 | | 08 | 30.4 | 14 | SN | | | P | 0234 | 21 | .5 | D | |
| PEKG | 04 | 0400E | 0435 | 0555D | N13 | E33 | | 09 | 6.7 | 115D | 3N | | | C | 0435 | 1473 | 18.0 | IJKLUW | |
| PEKG | 04 | 0400E | 0456 | 0555D | N13 | E33 | | 09 | 6.7 | 115D | 3N | | | P | 0456 | 1178 | 14.4 | U | |
| YUNN | 04 | 0444 | 0454 | 0500D | N06 | W51 | | 08 | 31.4 | 16D | SN | | | P | | 31 | .5 | | |
| LEAR | 04 | 0454 | 0456 | 0503 | N05 | W51 | | 08 | 31.4 | 9 | SF | | 2 | C | | 73 | | F | 3887 |
| WEND | 04 | 0618E | | 1000D | N13 | E32 | | 09 | 6.7 | 222D | 3N | | | C | 0618 | 1100 | 13.8 | BIU | |
| MONT | 04 | 0720E | 0720 | 0900D | N14 | E37 | | 09 | 7.1 | 100D | 3N | | | C | 0720 | 1500 | | B | |
| LEAR | 04 | 0723 | 0727 | 0740 | S13 | W64 | | 08 | 30.5 | 17 | SF | | 3 | C | | 30 | | | 3878 |
| WEND | 04 | 0853 | 0857 | 0903 | N17 | W55 | | 08 | 31.2 | 10 | SN | | | C | 0857 | 25 | .4 | | |
| WEND | 04 | 0937 | 0940 | 0946 | N14 | W32 | | 09 | 2.0 | 9 | SF | | | C | 0940 | 30 | .4 | | |
| WEND | 04 | 1017 | 1025 | 1034 | N07 | W56 | | 08 | 31.2 | 17 | SF | | | C | 1025 | 28 | .5 | | |
| WEND | 04 | 1017 | 1026 | 1042 | N11 | E31 | | 09 | 6.8 | 25 | SN | | | C | 1026 | 60 | .7 | | |
| WEND | 04 | 1056 | 1107 | 1128 | N07 | W56 | | 08 | 31.3 | 32 | SF | | | C | 1107 | 34 | .6 | | |
| WEND | 04 | 1132 | 1135 | 1147 | N11 | E30 | | 09 | 6.7 | 15 | SN | | | C | 1135 | 56 | .7 | | |
| WEND | 04 | 1248 | 1324 | 1342 | N07 | W57 | | 08 | 31.3 | 54 | SN | | | C | 1324 | 44 | .8 | | |
| RAMY | 04 | 1341 | 1342 | 1409 | N08 | E14 | | 09 | 5.6 | 28 | SF | | 3 | C | | 24 | | | 3885 |
| WEND | 04 | 1352 | 1355 | 1403 | S19 | W14 | | 09 | 3.5 | 11 | SF | | | C | 1355 | 18 | .2 | | |
| RAMY | 04 | 1353 | 1356 | 1403 | S19 | W15 | | 09 | 3.4 | 10 | SN | | 3 | C | | 27 | | | 3883 |
| WEND | 04 | 1453 | 1455 | 1504 | N09 | E14 | | 09 | 5.7 | 11 | SF | | | C | 1455 | 40 | .4 | | |
| WEND | 04 | 1457 | 1502 | 1506 | S19 | W15 | | 09 | 3.5 | 9 | SN | | | C | 1502 | 22 | .2 | | |
| HOLL | 04 | 1500 | 1501 | 1506 | S19 | W16 | | 09 | 3.4 | 6 | SF | | 3 | C | | 34 | | | 3883 |
| HOLL | 04 | 1530 | 1534 | 1554 | N07 | W58 | | 08 | 31.3 | 24 | SF | | 3 | C | | 45 | | | 3887 |
| WEND | 04 | 1558 | 1603 | 1617 | N11 | E28 | | 09 | 6.8 | 19 | SF | | | C | 1603 | 34 | .4 | | |
| RAMY | 04 | 1602 | 1606 | 1612 | N11 | E26 | | 09 | 6.6 | 10 | SF | | 3 | C | | 34 | | | 3886 |
| HOLL | 04 | 1602 | 1603 | 1612 | N12 | E26 | | 09 | 6.6 | 10 | SF | | 3 | C | | 36 | | | 3886 |
| HOLL | 04 | 1637 | 1643 | 1705 | N10 | E26 | | 09 | 6.6 | 28 | 1N | | 3 | C | | 314 | | UF | 3886 |
| RAMY | 04 | 1638 | 1643 | 1702 | N11 | E26 | | 09 | 6.6 | 24 | 1B | | 3 | C | | 286 | | F | 3886 |
| PALE | 04 | 1724 | 1752 | 1802 | S21 | W11 | | 09 | 3.9 | 38 | SF | | 3 | C | | 82 | | | 3883 |
| HOLL | 04 | 1733 | 1733 | 1826 | N07 | W59 | | 08 | 31.3 | 53 | SF | | 3 | C | | 27 | | | 3887 |
| HOLL | 04 | 1817 | 1817 | 1827 | S20 | W12 | | 09 | 3.8 | 10 | SN | | 3 | C | | 43 | | | 3883 |
| HOLL | 04 | 1835 | 1836 | 1907 | N06 | W61 | | 08 | 31.2 | 32 | SF | | 3 | C | | 15 | | K | 3887 |
| HOLL | 04 | 1835 | 1843 | 1907 | N06 | W61 | | 08 | 31.2 | 32 | SF | | 3 | C | | 14 | | K | 3887 |
| HOLL | 04 | 1837 | 1842 | 1852 | N12 | E24 | | 09 | 6.6 | 15 | SF | | 3 | C | | 26 | | | 3886 |
| PALE | 04 | 2026 | 2027 | 2043 | N07 | E67 | | 09 | 9.9 | 17 | SF | | 3 | C | | | | | 3890 |
| HOLL | 04 | 2026 | 2027 | 2032 | N07 | E73 | | 09 | 10.3 | 6 | SF | | 3 | C | | | | | 3890 |
| PALE | 04 | 2156E | 2157U | 2209 | S20 | W13 | | 09 | 3.9 | 13D | SF | | 3 | C | | 27 | | | 3883 |
| HOLL | 04 | 2235 | 2240 | 2245 | S20 | W14 | | 09 | 3.9 | 10 | SF | | 3 | C | | 23 | | F | 3883 |
| HOLL | 04 | 2258 | 2310 | 2325 | S21 | W14 | | 09 | 3.9 | 27 | SF | | 3 | C | | 42 | | F | 3883 |
| HOLL | 05 | 0001 | 0002 | 0010 | S20 | W15 | | 09 | 3.8 | 9 | SF | | 3 | C | | 44 | | F | 3883 |
| YUNN | 05 | 0231 | 0233 | 0237 | N05 | W61 | | 08 | 31.5 | 6 | SN | | | C | | 31 | .7 | | |
| PEKG | 05 | 0307 | 0313 | 0350 | N07 | W66 | | 08 | 31.2 | 43 | SN | | | C | 0313 | 76 | | EK | |
| PEKG | 05 | 0307 | 0328U | 0350 | N07 | W65 | | 08 | 31.3 | 43 | SN | | | C | 0328 | 76 | | E | |
| PALE | 05 | 0310 | 0326 | 0357D | N04 | W66 | | 08 | 31.2 | 47D | SN | | 3 | C | | 64 | | F | 3887 |
| YUNN | 05 | 0336E | 0340U | 0343D | N06 | W66 | | 08 | 31.2 | 7D | SN | | | P | 0340 | 47 | | E | |
| LEAR | 05 | 0509 | 0511 | 0519 | S21 | W18 | | 09 | 3.8 | 10 | SF | | 3 | C | | 22 | | | 3883 |
| LEAR | 05 | 0512 | 0514 | 0522 | N05 | W66 | | 08 | 31.3 | 10 | SF | | 3 | C | | 18 | | | 3887 |
| LEAR | 05 | 0530 | 0534 | 0540 | N13 | E22 | | 09 | 6.9 | 10 | SF | | 3 | C | | 62 | | | 3886 |
| WEND | 05 | 0735 | 0738 | 0742 | S22 | W19 | | 09 | 3.8 | 7 | SF | | | C | 0738 | 69 | .8 | | |
| PEKG | 05 | 0736 | 0737U | 0751 | S23 | W19 | | 09 | 3.8 | 15 | SN | | | C | 0737 | 42 | .5 | E | |
| LEAR | 05 | 0744 | 0746 | 0749 | S15 | W82 | | 08 | 30.1 | 5 | SF | | 3 | C | | | | | 3892 |
| YUNN | 05 | 0745 | 0747 | 0754 | S12 | W80 | | 08 | 30.3 | 9 | SN | | | C | | 31 | | A | |
| WEND | 05 | 0820 | 0822 | 0834 | N07 | W65 | | 08 | 31.5 | 14 | SN | | | C | 0822 | 38 | | | |
| YUNN | 05 | 0943 | 0946 | 0946D | S12 | W80 | | 08 | 30.4 | 3D | SN | | | P | | 31 | | A | |
| WEND | 05 | 1010 | 1025 | 1050 | S10 | E78 | | 09 | 11.3 | 40 | SN | | | C | 1025 | 38 | | | |
| WEND | 05 | 1056 | 1100 | 1106 | N07 | W68 | | 08 | 31.4 | 10 | SN | | | C | 1100 | 25 | | | |
| WEND | 05 | 1340 | 1347 | 1358 | N11 | E11 | | 09 | 6.4 | 18 | SN | | | C | 1347 | 81 | .9 | | |
| RAMY | 05 | 1340 | 1345 | 1410 | N11 | E12 | | 09 | 6.5 | 30 | SN | | 3 | C | | 150 | | | 3886 |
| RAMY | 05 | 1744 | 1804 | 1851 | N15 | W50 | | 09 | 1.9 | 67 | SN | | 3 | C | | 112 | | | 3891 |
| HOLL | 05 | 1750 | 1805 | 1836 | N16 | W52 | | 09 | 1.8 | 46 | SN | | 3 | C | | 78 | | F | 3891 |
| RAMY | 05 | 1801 | 1809U | 1856 | S20 | W27 | | 09 | 3.7 | 55 | SF | | 3 | C | | 40 | | | 3883 |
| HOLL | 05 | 1901 | 1906 | 1913 | S14 | W55 | | 09 | 1.6 | 12 | SF | | 3 | C | | 30 | | F | 3879 |
| HOLL | 05 | 1906 | 1909 | 1919 | S19 | W28 | | 09 | 3.7 | 13 | SF | | 3 | C | | 30 | | F | 3883 |
| RAMY | 05 | 1931 | 1932 | 1948 | N16 | E16 | | 09 | 7.0 | 17 | SN | | 3 | C | | 50 | | | 3886 |
| HOLL | 05 | 1959E | 2001U | 2017D | N16 | W53 | | 09 | 1.8 | 18D | SN | | 3 | C | | 71 | | F | 3891 |
| HOLL | 05 | 2112 | 2112 | 2118 | S14 | W56 | | 09 | 1.6 | 6 | SF | | 3 | C | | 18 | | F | 3879 |

# H - ALPHA S O L A R F L A R E S

## SEPTEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | Big Bear Plage Region | CMP Mo | CMP Day | Dur (Min) | Imp Opt | Imp Xray | Obs See | Obs Type | Area Measurement Time (UT) | Area Measurement Apparent ($10^{-6}$ Disk) | Area Measurement Corr (Sq Deg) | Remarks | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PEKG | 05 | 2351 | 2355 | 2400 | N07 | W76 | | 08 | 31.3 | 9 | SF | | | P | 2355 | 34 | | D | |
| HOLL | 06 | 0028 | 0030 | 0035 | S20 | W28 | | 09 | 3.9 | 7 | SF | | 3 | C | | 56 | | F | 3883 |
| YUNN | 06 | 0106E | 0110 | 0112D | N06 | W78 | | 08 | 31.2 | 6D | SN | | | P | | 31 | | | |
| PEKG | 06 | 0150 | 0153 | 0209 | N10 | E13 | | 09 | 7.0 | 19 | 1B | | | C | 0153 | 463 | 4.9 | FL | |
| PEKG | 06 | 0151 | 0153 | 0155 | N13 | E01 | | 09 | 6.1 | 4 | SN | | | C | 0153 | 76 | .8 | E | |
| YUNN | 06 | 0153E | 0154U | 0235 | N11 | E14 | | 09 | 7.1 | 42D | 1B | | | P | 0154 | 393 | 4.2 | F | |
| LEAR | 06 | 0431 | 0432 | 0513 | N15 | E12 | | 09 | 7.1 | 42 | SN | | 3 | C | | 113 | | | 3886 |
| YUNN | 06 | 0435E | 0436U | 0445 | N15 | E12 | | 09 | 7.1 | 10D | SN | | | P | 0436 | 126 | 1.3 | E | |
| YUNN | 06 | 0522E | 0525 | 0531 | N07 | W79 | | 08 | 31.3 | 9D | SN | | | P | | 47 | | | |
| LEAR | 06 | 0522 | 0522 | 0531 | N06 | W76 | | 08 | 31.5 | 9 | SF | | 3 | C | | | | | 3887 |
| LEAR | 06 | 0554 | 0555 | 0614 | N09 | E12 | | 09 | 7.1 | 20 | SF | | 3 | C | | 69 | | F | 3886 |
| KAND | 06 | 1044 | 1059 | | N10 | E05 | | 09 | 6.8 | | SF | | | C | | | | D | |
| KAND | 06 | 1105 | 1122 | | N15 | E08 | | 09 | 7.1 | | SF | | | C | | | | | |
| HOLL | 06 | 1523 | 1524 | 1527 | S12 | E62 | | 09 | 11.3 | 4 | SF | | 3 | C | | 25 | | F | 3895 |
| HOLL | 06 | 1643 | 1650 | 1701 | S20 | W38 | | 09 | 3.8 | 18 | SF | | 3 | C | | 39 | | F | 3883 |
| PALE | 06 | 1814 | 1821 | 1841 | N14 | E02 | | 09 | 6.9 | 27 | SN | | 3 | C | | 47 | | F | 3886 |
| HOLL | 06 | 1814 | 1826 | 1846 | N14 | E03 | | 09 | 7.0 | 32 | SF | | 3 | C | | 78 | | F | 3886 |
| RAMY | 06 | 2020 | 2023 | 2032 | S05 | E53 | | 09 | 10.8 | 12 | 1N | | 3 | C | | 209 | | | 3895 |
| HOLL | 06 | 2020 | 2022 | 2028 | S13 | E63 | | 09 | 11.6 | 8 | SN | | 3 | C | | 115 | | | 3895 |
| PALE | 06 | 2249 | 2249 | 2254 | S19 | W42 | | 09 | 3.7 | 5 | SF | | 3 | C | | 27 | | | 3883 |
| PALE | 06 | 2337 | 2338 | 2348 | N15 | E01 | | 09 | 7.1 | 11 | SF | | 3 | C | | 41 | | F | 3886 |
| PALE | 07 | 0014 | 0015 | 0020 | S09 | E57 | | 09 | 11.3 | 6 | SF | | 3 | C | | 36 | | | 3895 |
| YUNN | 07 | 0343 | 0345 | 0347D | S22 | W51 | | 09 | 3.2 | 4D | SN | | | P | | 47 | | D | |
| LEAR | 07 | 0345 | 0345 | 0411 | S21 | W48 | | 09 | 3.5 | 26 | SN | | 3 | C | | 18 | | FH | 3883 |
| PURP | 07 | 0349 | 0352 | 0357 | S21 | W47 | | 09 | 3.5 | 8 | SN | | | C | 0352 | 84 | 1.5 | | |
| YUNN | 07 | 0505E | 0505U | 0506D | S20 | W51 | | 09 | 3.3 | 1D | SN | | | P | 0505 | 63 | 1.2 | D | |
| YUNN | 07 | 0540 | 0548 | 0621 | S09 | E53 | | 09 | 11.2 | 41 | 1B | | | C | | 126 | 2.3 | E | |
| PURP | 07 | 0548E | 0549U | 0621 | S10 | E60 | | 09 | 11.8 | 33D | 1B | | | C | 0549 | 213 | 4.6 | | |
| RAMY | 07 | 1130 | 1301 | 1331 | N09 | W27 | | 09 | 5.4 | 121 | SF | | 3 | C | | 49 | | | 3885 |
| RAMY | 07 | 1454 | 1501 | 1732 | N24 | W62 | | 09 | 2.8 | 158 | SF | | 3 | C | | 22 | | K | 3888 |
| RAMY | 07 | 1454 | 1514 | 1732 | N24 | W62 | | 09 | 2.8 | 158 | SN | | 3 | C | | 33 | | K | 3888 |
| HOLL | 07 | 1652 | 1654 | 1714 | N08 | W30 | | 09 | 5.4 | 22 | SF | | 3 | C | | 69 | | F | 3885 |
| RAMY | 07 | 1653 | 1653 | 1708 | N07 | W30 | | 09 | 5.4 | 15 | SN | | 3 | C | | 48 | | | 3885 |
| BIGB | 07 | 1709 | 1710 | 1721 | S20 | W57 | 18547 | 09 | 3.3 | 12 | SB | | 3 | C | 1710 | 70 | 1.3 | | |
| RAMY | 07 | 1710 | 1711 | 1716 | S22 | W58 | | 09 | 3.3 | 6 | SB | | 3 | C | | 40 | | | 3883 |
| HOLL | 07 | 1710 | 1710 | 1717 | S20 | W57 | | 09 | 3.3 | 7 | SB | | 3 | C | | 58 | | E | 3883 |
| PALE | 07 | 1809 | 1819 | 1903 | S08 | E48 | | 09 | 11.4 | 54 | 1B | | 4 | C | | 196 | | FE | 3895 |
| BIGB | 07 | 1809 | 1820 | 1903 | S09 | E48 | 18555 | 09 | 11.4 | 54 | 1N | | 3 | C | 1820 | 240 | 3.7 | | |
| RAMY | 07 | 1810 | 1812 | 1857 | S09 | E48 | | 09 | 11.4 | 47 | SN | | 3 | C | | 140 | | K | 3895 |
| RAMY | 07 | 1810 | 1821 | 1857 | S09 | E48 | | 09 | 11.4 | 47 | 1N | | 3 | C | | 218 | | F K | 3895 |
| HOLL | 07 | 1811 | 1824U | 1901 | S10 | E48 | | 09 | 11.4 | 50 | SN | | 3 | C | | 122 | | FH | 3895 |
| BIGB | 07 | 1818 | 1853 | 1927 | N08 | W31 | 18549 | 09 | 5.4 | 69 | 1B | | 3 | C | 1853 | 220 | 2.6 | | |
| PALE | 07 | 1820 | 1825 | 1924 | N08 | W31 | | 09 | 5.4 | 64 | SB | | 4 | C | | 121 | | K | 3885 |
| PALE | 07 | 1820 | 1852 | 1924 | N08 | W31 | | 09 | 5.4 | 64 | 1B | | 4 | C | | 209 | | K | 3885 |
| RAMY | 07 | 1821 | 1828 | 1921 | N07 | W31 | | 09 | 5.4 | 60 | SN | | 3 | C | | 138 | | K | 3885 |
| RAMY | 07 | 1821 | 1852 | 1921 | N07 | W31 | | 09 | 5.4 | 60 | 1B | | 3 | C | | 300 | | EFK | 3885 |
| HOLL | 07 | 1821 | 1825 | 1914D | N08 | W32 | | 09 | 5.4 | 53D | SN | | 3 | C | | 126 | | K | 3885 |
| HOLL | 07 | 1821 | 1854 | 1914D | N08 | W32 | | 09 | 5.4 | 53D | 1N | | 3 | C | | 433 | | F K | 3885 |
| RAMY | 07 | 1828 | 1828 | 1835 | N07 | W18 | | 09 | 6.4 | 7 | SF | | 3 | C | | 29 | | | 3886 |
| RAMY | 07 | 2006 | 2015 | 2049 | N26 | W61 | | 09 | 3.1 | 43 | SN | | 3 | C | | 34 | | | 3888 |
| BIGB | 07 | 2006 | 2019 | 2051 | N26 | W61 | 18502 | 09 | 3.1 | 45 | 1N | | 3 | C | 2019 | 100 | 2.1 | | |
| HOLL | 07 | 2137 | 2138 | 2142 | N20 | W31 | | 09 | 5.5 | 5 | SF | | 3 | C | | 25 | | | 3897 |
| HOLL | 07 | 2138 | 2138 | 2149 | N10 | W32 | | 09 | 5.5 | 11 | SF | | 3 | C | | 25 | | F | 3885 |
| HOLL | 07 | 2228 | 2232 | 2241 | N20 | W32 | | 09 | 5.5 | 13 | SF | | 3 | C | | 27 | | | 3897 |
| HOLL | 07 | 2243 | 2247 | 2251 | N08 | W33 | | 09 | 5.5 | 8 | SF | | 3 | C | | 20 | | | 3885 |
| BIGB | 07 | 2303 | 2305 | 2319 | S30 | W38 | 18547 | 09 | 5.0 | 16 | SN | | 3 | C | 2305 | 100 | 1.3 | | |
| PEKG | 08 | 0030 | 0034 | 0040 | N20 | W34 | | 09 | 5.4 | 10 | SN | | | P | 0034 | 50 | .6 | E | |
| LEAR | 08 | 0030 | 0031 | 0043 | N19 | W33 | | 09 | 5.5 | 13 | SN | | 3 | C | | 60 | | H | 3897 |
| LEAR | 08 | 0034 | 0036 | 0043 | N13 | W14 | | 09 | 7.0 | 9 | SF | | 3 | C | | 35 | | | 3886 |
| LEAR | 08 | 0046 | 0048 | 0100 | N26 | W66 | | 09 | 2.9 | 14 | SF | | 3 | C | | 32 | | | 3888 |
| LEAR | 08 | 0059 | 0100 | 0103 | N19 | W32 | | 09 | 5.6 | 4 | SF | | 3 | C | | 26 | | | 3897 |
| LEAR | 08 | 0110 | 0112 | 0140 | N07 | W35 | | 09 | 5.4 | 30 | SF | | 3 | C | | 51 | | | 3885 |
| PEKG | 08 | 0120 | 0125 | 0130 | N09 | W37 | | 09 | 5.3 | 10 | SN | | | P | 0125 | 88 | 1.1 | E | |
| LEAR | 08 | 0146 | 0150 | 0158 | S19 | W57 | | 09 | 3.7 | 12 | SF | | 3 | C | | 20 | | | 3883 |
| LEAR | 08 | 0414 | 0415 | 0423 | N07 | W37 | | 09 | 5.4 | 9 | SF | | 3 | C | | 30 | | | 3885 |
| LEAR | 08 | 0417 | 0419 | 0424 | N15 | W13 | | 09 | 7.2 | 7 | SF | | 3 | C | | 33 | | | 3886 |
| LEAR | 08 | 0419 | 0420 | 0434 | N19 | W33 | | 09 | 5.7 | 15 | SF | | 3 | C | | 25 | | | 3897 |
| LEAR | 08 | 0453 | 0456 | 0508 | N19 | W35 | | 09 | 5.5 | 15 | SF | | 3 | C | | 53 | | | 3897 |

# H - ALPHA S O L A R F L A R E S

SEPTEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | Big Bear Plage Region | CMP Mo | CMP Day | Dur (Min) | Imp Opt | Imp Xray | See | Obs Type | Area Measurement Time (UT) | Area Measurement Apparent ($10^{-6}$ Disk) | Area Measurement Corr (Sq Deg) | Remarks | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LEAR | 08 | 0555 | 0601 | 0612 | N21 | W35 | | 09 | 5.6 | 17 | SN | | 3 | C | | 47 | | | 3897 |
| LEAR | 08 | 0640 | 0644 | 0733 | N15 | W15 | | 09 | 7.1 | 53 | SN | | 3 | C | | 189 | | F | 3886 |
| BUCA | 08 | 0640 | 0657 | 0740 | N15 | W17 | | 09 | 7.0 | 60 | SN | | | C | 0657 | 172 | 1.9 | E | |
| YUNN | 08 | 0642 | 0705 | 0730 | N15 | W18 | | 09 | 6.9 | 48 | 1B | | | C | | 189 | 2.1 | E | |
| ISTA | 08 | 0643 | | 0730 | N14 | W17 | | 09 | 7.0 | 47 | SF | | | | | | | | |
| PEKG | 08 | 0643 | 0650 | 0718 | N15 | W17 | | 09 | 7.0 | 35 | SN | | | C | 0650 | 113 | 1.2 | FK | |
| PEKG | 08 | 0643 | 0659 | 0718 | N15 | W17 | | 09 | 7.0 | 35 | SN | | | C | 0659 | 126 | 1.4 | F | |
| PEKG | 08 | 0650E | 0650 | 0650D | N20 | W37 | | 09 | 5.4 | 35D | SF | | | P | 0650 | 50 | .6 | E | |
| LEAR | 08 | 0915 | 0921 | 0936 | N26 | W70 | | 09 | 2.9 | 21 | SF | | 3 | C | | 15 | | F | 3888 |
| HOLL | 08 | 1516E | 1516U | 1521D | S12 | E38 | | 09 | 11.5 | 5D | SF | | 1 | C | | 80 | | | 3895 |
| PALE | 08 | 1922 | 1923 | 1929 | S11 | E37 | | 09 | 11.6 | 7 | SN | | 3 | C | | 34 | | | 3895 |
| HOLL | 08 | 1924E | 1924U | 1931 | S11 | E37 | | 09 | 11.6 | 7D | SF | | 2 | C | | 81 | | | 3895 |
| HOLL | 08 | 1955 | 1958 | 2001 | S11 | E35 | | 09 | 11.5 | 6 | SF | | 3 | C | | 21 | | | 3895 |
| LEAR | 08 | 2356 | 0023 | 0251 | S10 | E31 | | 09 | 11.3 | 175 | 2N | | 3 | C | | 672 | | F | 3895 |
| PEKG | 09 | 0014 | 0021 | 0128 | S10 | E31 | | 09 | 11.3 | 74 | 1N | | | C | 0021 | 252 | 3.2 | FK | |
| PEKG | 09 | 0014 | 0035 | 0128 | S08 | E31 | | 09 | 11.3 | 74 | 1N | | | C | 0035 | 286 | 3.6 | F | |
| PEKG | 09 | 0115 | 0121 | 0129 | N12 | W47 | | 09 | 5.5 | 14 | SN | | | P | 0121 | 21 | .3 | D | |
| LEAR | 09 | 0115 | 0120 | 0136 | N11 | W47 | | 09 | 5.5 | 21 | SN | | 3 | C | | 33 | | | 3885 |
| LEAR | 09 | 0201 | 0201 | 0206 | N10 | W49 | | 09 | 5.4 | 5 | SN | | 3 | C | | 28 | | | 3885 |
| LEAR | 09 | 0409 | 0413 | 0426 | N10 | W51 | | 09 | 5.3 | 17 | 1B | | 3 | C | | 167 | | FE | 3885 |
| PEKG | 09 | 0413E | 0413 | 0418 | N12 | W51 | | 09 | 5.3 | 5D | SN | | | P | 0413 | 46 | .7 | D | |
| LEAR | 09 | 0554 | 0555 | 0557 | N07 | W52 | | 09 | 5.3 | 3 | SF | | 3 | C | | 19 | | | 3885 |
| LEAR | 09 | 0600 | 0608 | 0614 | N10 | W51 | | 09 | 5.4 | 14 | SN | | 3 | C | | 26 | | FH | 3885 |
| YUNN | 09 | 0654E | 0655U | 0702 | N11 | W52 | | 09 | 5.4 | 8D | SN | | | P | 0655 | 31 | .5 | | |
| WEND | 09 | 0709 | | 0715 | N11 | W49 | | 09 | 5.6 | 6 | SN | | | C | 0713 | 56 | .9 | | |
| BUCA | 09 | 0710 | 0715 | 0740 | N12 | W50 | | 09 | 5.5 | 30 | SN | | | C | 0715 | 107 | 1.7 | | |
| YUNN | 09 | 0711 | 0715 | 0719D | N11 | W52 | | 09 | 5.4 | 8D | SN | | | P | | 31 | .5 | E | |
| PEKG | 09 | 0712 | 0718 | 0735 | N11 | W51 | | 09 | 5.5 | 23 | SN | | | P | 0718 | 59 | .9 | E | |
| LEAR | 09 | 0713 | 0715 | 0745 | N11 | W50 | | 09 | 5.5 | 32 | SB | | 3 | C | | 85 | | FE | 3885 |
| ISTA | 09 | 0714 | | 0727 | N11 | W51 | | 09 | 5.5 | 13 | SB | | | | 0718 | | | E | |
| PURP | 09 | 0714 | 0720 | 0728 | N11 | W51 | | 09 | 5.5 | 14 | SB | | | C | 0720 | 52 | .8 | E | |
| LEAR | 09 | 0908 | 0910 | 0934D | S18 | E31 | | 09 | 11.7 | 26D | SF | | 3 | C | | 60 | | K | 3895 |
| LEAR | 09 | 0908 | 0932 | 0934D | S18 | E31 | | 09 | 11.7 | 26D | SN | | 3 | C | | 146 | | F K | 3895 |
| MONT | 09 | 0910 | 0912 | 0920 | S13 | E34 | | 09 | 11.9 | 10 | SN | | | C | 0912 | 110 | | | |
| MONT | 09 | 0929 | 0938 | 1010 | S18 | E33 | | 09 | 11.9 | 41 | 1N | | | C | 0938 | 250 | | | |
| PEKG | 09 | 0939E | 0944 | 1005 | S17 | E31 | | 09 | 11.8 | 26D | 1N | | | P | 0944 | 294 | 3.9 | FK | |
| PEKG | 09 | 0939E | 0946 | 1005 | S17 | E32 | | 09 | 11.8 | 26D | 1N | | | P | 0946 | 344 | 4.6 | F | |
| PEKG | 09 | 0945 | 0946 | 0947 | N21 | W51 | | 09 | 5.5 | 2 | SF | | | C | 0946 | 25 | .4 | D | |
| MONT | 09 | 0954 | 0958 | 1005 | N11 | W55 | | 09 | 5.3 | 11 | SN | | | C | 0958 | 200 | | | |
| RAMY | 09 | 1404 | 1404 | 1417 | S14 | E87 | | 09 | 16.2 | 13 | SF | | 3 | C | | | | | |
| RAMY | 09 | 1622 | 1623 | 1627 | N10 | W58 | | 09 | 5.3 | 5 | SN | | 3 | C | | 28 | | | 3885 |
| PALE | 09 | 2121 | 2121 | 2139 | S11 | E75 | | 09 | 15.5 | 18 | SF | | 3 | C | | | | | 3901 |
| BIGB | 09 | 2121 | 2123 | 2132 | S11 | E75 | 18561 | 09 | 15.5 | 11 | SF | | 3 | C | 2123 | 60 | | | |
| PALE | 09 | 2134 | 2134 | 2139 | S23 | W83 | | 09 | 3.5 | 5 | SF | | 3 | C | | | | | 3883 |
| PALE | 09 | 2141 | 2144 | 2152 | S12 | E77 | | 09 | 15.7 | 11 | SF | | 3 | C | | | | | 3901 |
| PALE | 09 | 2203 | 2214 | 2227D | S12 | E79 | | 09 | 15.9 | 24D | SF | | 3 | C | | | | | 3901 |
| LEAR | 10 | 0223 | 0223 | 0229 | S13 | E84 | | 09 | 16.4 | 6 | SN | | 3 | C | | | | | 3901 |
| LEAR | 10 | 0438 | 0440 | 0442 | S12 | E16 | | 09 | 11.4 | 4 | SF | | 3 | C | | 29 | | | 3895 |
| LEAR | 10 | 0443 | 0444 | 0451 | S13 | E78 | | 09 | 16.1 | 8 | SF | | 3 | C | | 16 | | | 3901 |
| LEAR | 10 | 0524 | 0526 | 0535 | S15 | E75 | | 09 | 15.9 | 11 | SN | | 3 | C | | | | H | 3901 |
| KAND | 10 | 0808E | 0817 | | S07 | E14 | | 09 | 11.4 | D | SN | | | C | | | | | |
| KAND | 10 | 0808E | 0827 | | S07 | E05 | | 09 | 10.7 | D | SN | | | C | | | | | |
| KAND | 10 | 0808E | 0827 | | S09 | E21 | | 09 | 11.9 | D | SN | | | C | | | | | |
| LEAR | 10 | 0823 | 0828 | 0850 | N12 | W64 | | 09 | 5.5 | 27 | 1N | | 3 | C | | 305 | | F | 3885 |
| WEND | 10 | 0823 | 0827 | 0846 | N09 | W68 | | 09 | 5.2 | 23 | 1N | | | C | 0827 | 156 | | | |
| KAND | 10 | 0824 | 0830 | 0834 | N10 | W67 | | 09 | 5.3 | 10 | 1B | | | C | | | | | |
| YUNN | 10 | 0826 | 0827 | 0845 | N11 | W64 | | 09 | 5.5 | 19 | 1B | | | C | | 157 | 3.6 | E | |
| PEKG | 10 | 0827E | 0830 | 0845 | N13 | W67 | | 09 | 5.3 | 18D | 1N | | | P | 0830 | 92 | | E | |
| MONT | 10 | 0827 | 0829 | 0841 | N11 | W75 | | 09 | 4.7 | 14 | 1B | | | C | 0829 | 300 | | | |
| YUNN | 10 | 0928 | 0934 | 0950D | S06 | E14 | | 09 | 11.4 | 22D | SN | | | P | | 31 | .3 | E | |
| KAND | 10 | 0929 | 0943 | | S06 | E15 | | 09 | 11.5 | | SN | | | C | | | | | |
| KAND | 10 | 1125 | 1134 | 1143 | S09 | E06 | | 09 | 10.9 | 18 | 1N | | | C | | | | U | |
| WEND | 10 | 1125 | 1131 | 1141 | S09 | E09 | | 09 | 11.1 | 16 | SF | | | C | 1131 | 81 | .9 | | |
| KAND | 10 | 1148 | 1201 | | N09 | E70 | | 09 | 15.8 | | SN | | | C | | | | | |
| RAMY | 10 | 1616 | 1616 | 1712 | S12 | E73 | | 09 | 16.2 | 56 | SF | | 3 | C | | 25 | | K | 3901 |
| RAMY | 10 | 1616 | 1644 | 1712 | S12 | E73 | | 09 | 16.2 | 56 | SF | | 3 | C | | | | K | 3901 |
| HOLL | 10 | 1640 | 1722 | 1747D | S13 | E66 | | 09 | 15.7 | 67D | SN | | 3 | C | | 34 | | F | 3901 |
| RAMY | 10 | 1713 | 1725 | 1742 | S12 | E69 | | 09 | 15.9 | 29 | SN | | 3 | C | | 13 | | | 3901 |
| HOLL | 10 | 1757 | 1758 | 1806 | S14 | E64 | | 09 | 15.6 | 9 | SF | | 3 | C | | 35 | | | 3901 |

# H - ALPHA S O L A R F L A R E S

## SEPTEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | Big Bear Plage Region | CMP Mo | CMP Day | Dur (Min) | Imp | Opt | Xray | Obs See | Obs Type | Area Measurement Time (UT) | Area Measurement Apparent ($10^{-6}$ Disk) | Area Measurement Corr (Sq Deg) | Remarks | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MANI | 10 | 2316E | 2316U | 2335D | S21 | E16 | | 09 | 12.2 | 19D | SF | | 1 | V | | | 50 | .6 | | |
| LEAR | 11 | 0024 | 0025 | 0035 | S14 | E62 | | 09 | 15.7 | 11 | SB | | 3 | C | | | 68 | | E | 3901 |
| PEKG | 11 | 0025E | 0025U | 0030D | S15 | E63 | | 09 | 15.8 | 5D | SF | | | P | | 0025 | 84 | | D | |
| YUNN | 11 | 0334 | 0335 | 0341 | S23 | E11 | | 09 | 12.0 | 7 | SN | | | C | | | 47 | .6 | E | |
| PEKG | 11 | 0524E | 0525 | 0545 | N12 | W79 | | 09 | 5.3 | 21D | SF | | | C | | 0525 | 63 | | EK | |
| LEAR | 11 | 0524E | 0531U | 0551D | N13 | W69 | | 09 | 6.0 | 27D | 1F | | 2 | C | | | 175 | | | 3885 |
| YUNN | 11 | 0525E | 0533 | 0609 | N32 | W85 | | 09 | 4.5 | 44D | | | | P | | | | | Y | |
| YUNN | 11 | 0609E | 0610U | 0615 | S22 | E09 | | 09 | 11.9 | 6D | SN | | | P | | 0610 | 16 | .2 | D | |
| YUNN | 11 | 0630 | 0638 | 0701 | S12 | E65 | | 09 | 16.2 | 31 | SN | | | C | | | 47 | | E | |
| LEAR | 11 | 0636 | 0642 | 0655 | S12 | E66 | | 09 | 16.3 | 19 | SF | | 3 | C | | | 28 | | | 3901 |
| KAND | 11 | 0707E | 0818D | | S21 | E12 | | 09 | 12.2 | D | SB | | | C | | | | | T | |
| LEAR | 11 | 0739 | 0740 | 0745 | S22 | E11 | | 09 | 12.2 | 6 | SF | | 3 | C | | | 24 | | | 3902 |
| LEAR | 11 | 0810 | 0817 | 0847 | S22 | E11 | | 09 | 12.2 | 37 | SF | | 3 | C | | | 39 | | K | 3902 |
| LEAR | 11 | 0810 | 0829 | 0847 | S22 | E11 | | 09 | 12.2 | 37 | SF | | 3 | C | | | 159 | | K | 3902 |
| ISTA | 11 | 0820 | | 0843 | S23 | E11 | | 09 | 12.2 | 23 | SF | | | | | | | | | |
| WEND | 11 | 0822 | 0830 | 0845 | S21 | E09 | | 09 | 12.0 | 23 | SN | | | C | | 0830 | 75 | .8 | | |
| PEKG | 11 | 0825E | 0831 | 0905 | S23 | E10 | | 09 | 12.1 | 40D | SF | | | P | | 0831 | 109 | 1.3 | E | |
| PURP | 11 | 0826 | 0827 | 0848 | S22 | E11 | | 09 | 12.2 | 22 | SF | | | C | | 0827 | 58 | .7 | | |
| MONT | 11 | 0827 | 0834 | 0843 | S23 | E10 | | 09 | 12.1 | 16 | 1N | | | C | | 0834 | 400 | | | |
| RAMY | 11 | 1144 | 1213 | 1257 | S22 | E08 | | 09 | 12.1 | 73 | SN | | 3 | C | | | 72 | | K | 3902 |
| RAMY | 11 | 1144 | 1243 | 1257 | S22 | E08 | | 09 | 12.1 | 73 | SF | | 3 | C | | | 47 | | K | 3902 |
| WEND | 11 | 1212 | 1217 | 1218 | S12 | E59 | | 09 | 16.0 | 6 | SF | | | C | | 1217 | 13 | .3 | | |
| RAMY | 11 | 1213 | 1216 | 1240 | S12 | E60 | | 09 | 16.0 | 27 | SN | | 3 | C | | | 30 | | | 3901 |
| RAMY | 11 | 1324 | 1326 | 1337 | S22 | E07 | | 09 | 12.1 | 13 | SF | | 3 | C | | | 28 | | | 3902 |
| RAMY | 11 | 1346 | 1347 | 1357 | S22 | E09 | | 09 | 12.3 | 11 | SN | | 3 | C | | | 41 | | | 3902 |
| RAMY | 11 | 1402 | 1409 | 1413 | S21 | E07 | | 09 | 12.1 | 11 | SF | | 3 | C | | | 25 | | | 3902 |
| HOLL | 11 | 1440 | 1443 | 1508 | S21 | E06 | | 09 | 12.1 | 28 | SN | | 3 | C | | | 47 | | | 3902 |
| RAMY | 11 | 1442 | 1443 | 1456 | S21 | E06 | | 09 | 12.1 | 14 | SN | | 3 | C | | | 53 | | | 3902 |
| HOLL | 11 | 1530 | 1530 | 1543 | S22 | E06 | | 09 | 12.1 | 13 | SB | | 3 | C | | | 35 | | | 3902 |
| HOLL | 11 | 2028 | 2028 | 2040 | S14 | E58 | | 09 | 16.2 | 12 | SF | | 3 | C | | | 30 | | F | 3901 |
| LEAR | 12 | 0011 | 0018U | 0031 | N15 | W15 | | 09 | 10.9 | 20 | SF | | 3 | C | | | 28 | | FS | |
| PALE | 12 | 0015E | 0015U | 0048D | N16 | W16 | | 09 | 10.8 | 33D | SF | | 3 | C | | | 58 | | | 3894 |
| PURP | 12 | 0032 | 0037 | 0057 | N17 | W15 | | 09 | 10.9 | 25 | SF | | | P | | 0037 | 26 | .3 | G | |
| PEKG | 12 | 0035E | 0039 | 0041 | N18 | W13 | | 09 | 11.0 | 6D | SF | | | P | | 0039 | 55 | .6 | D | |
| LEAR | 12 | 0315 | 0319 | 0337 | S12 | W03 | | 09 | 11.9 | 22 | SF | | 3 | C | | | 48 | | F | 3895 |
| PALE | 12 | 0322 | 0322U | 0337 | S11 | W02 | | 09 | 12.0 | 15 | SF | | 3 | C | | | 42 | | F | 3895 |
| PEKG | 12 | 0655 | 0701 | 0710D | S12 | W06 | | 09 | 11.8 | 15D | SN | | | P | | 0701 | 168 | 1.8 | F | |
| LEAR | 12 | 0656 | 0657 | 0722 | S11 | W05 | | 09 | 11.9 | 26 | SF | | 3 | C | | | 79 | | F | 3895 |
| PURP | 12 | 0701 | 0715 | 0724 | S13 | W06 | | 09 | 11.8 | 23 | SN | | | C | | 0715 | 77 | .9 | | |
| LEAR | 12 | 0908 | 0910 | 0918 | S23 | W04 | | 09 | 12.1 | 10 | SF | | 3 | C | | | 94 | | | 3902 |
| WEND | 12 | 1241 | 1243 | 1256 | S12 | W10 | | 09 | 11.8 | 15 | SF | | | C | | 1243 | 25 | .3 | E | |
| WEND | 12 | 1539 | 1623 | 1642D | S16 | W09 | | 09 | 12.0 | 63D | 1N | | | C | | 1623 | 294 | 3.2 | FZ | |
| HOLL | 12 | 1606E | 1611 | 1707D | S14 | W11 | | 09 | 11.8 | 61D | 1N | | 3 | C | | | 348 | | F | 3902 |
| PALE | 12 | 1712E | 1712U | 1727 | S13 | W10 | | 09 | 12.0 | 15D | SF | | 2 | C | | | 85 | | | 3895 |
| PALE | 12 | 1712E | 1712U | 1745 | S15 | W15 | | 09 | 11.6 | 33D | SN | | 2 | C | | | 93 | | | 3902 |
| PALE | 12 | 2355E | 0001U | 0017 | S15 | E73 | | 09 | 18.5 | 22D | SF | | 3 | C | | | | | | 3905 |
| HOLL | 12 | 2359 | 0001 | 0009 | S18 | E71 | | 09 | 18.4 | 10 | SF | | 3 | C | | | | | | 3905 |
| LEAR | 13 | 0231 | 0236 | 0245 | S16 | E69 | | 09 | 18.3 | 14 | SF | | 3 | C | | | 64 | | | 3905 |
| LEAR | 13 | 0342 | 0343 | 0350 | S17 | E70 | | 09 | 18.5 | 8 | SF | | 3 | C | | | | | | 3905 |
| LEAR | 13 | 0439 | 0459 | 0554 | S11 | W18 | | 09 | 11.8 | 75 | 1N | | 3 | C | | | 332 | | F | 3895 |
| PEKG | 13 | 0440 | 0459U | 0547 | S18 | E69 | | 09 | 18.4 | 67 | SF | | | C | | 0459 | 46 | | D | |
| PEKG | 13 | 0455 | 0459U | 0510 | S11 | W20 | | 09 | 11.7 | 15 | 1N | | | C | | 0459 | 357 | 4.1 | FU | |
| LEAR | 13 | 0455 | 0456 | 0502 | S17 | E69 | | 09 | 18.4 | 7 | SN | | 3 | C | | | | | | 3905 |
| WEND | 13 | 0634 | 0636 | 0643 | S14 | E36 | | 09 | 16.0 | 9 | SF | | | C | | 0636 | 25 | .3 | | |
| KAND | 13 | 0747 | 0800 | | S15 | W20 | | 09 | 11.8 | | SF | | | C | | | | | | |
| KAND | 13 | 0814 | 0835 | | S15 | W20 | | 09 | 11.8 | | SF | | | C | | | | | | |
| HOLL | 13 | 1632 | 1632 | 1648 | S14 | E33 | | 09 | 16.2 | 16 | SF | | 3 | C | | | 66 | | | 3901 |
| PALE | 13 | 1833 | 1834 | 1844 | S11 | W25 | | 09 | 11.9 | 11 | SF | | 3 | C | | | 28 | | F | 3895 |
| PALE | 13 | 1942 | 1947 | 2000 | S15 | E60 | | 09 | 18.4 | 18 | SF | | 3 | C | | | 14 | | | 3905 |
| PALE | 13 | 1942 | 1954 | 2005 | N02 | E60 | | 09 | 18.3 | 23 | SN | | 3 | C | | | 68 | | F | |
| PALE | 13 | 2105 | 2106 | 2115D | N17 | E90 | | 09 | 20.7 | 10D | SF | | 3 | C | | | | | | |
| LEAR | 13 | 2326 | 2336 | 0041 | S15 | W29 | | 09 | 11.8 | 75 | SN | | 3 | C | | | 138 | | F | 3895 |
| PALE | 13 | 2331 | 2334 | 0051 | S13 | W28 | | 09 | 11.9 | 80 | SF | | 3 | C | | | 76 | | F | 3895 |
| PALE | 14 | 0022 | 0022 | 0027 | N18 | E85 | | 09 | 20.5 | 5 | SF | | 3 | C | | | | | | 3908 |
| PALE | 14 | 0108 | 0110 | 0124 | N18 | E88 | | 09 | 20.8 | 16 | SF | | 3 | C | | | | | | 3908 |
| LEAR | 14 | 0109 | 0112 | 0120 | N15 | E88 | | 09 | 20.7 | 11 | SN | | 3 | C | | | | | | 3908 |
| PALE | 14 | 0158 | 0201 | 0210 | N02 | E54 | | 09 | 18.1 | 12 | SN | | 3 | C | | | 67 | | | 3906 |

# H - ALPHA SOLAR FLARES

## SEPTEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | Big Bear Plage Region | CMP Mo | CMP Day | Dur (Min) | Imp Opt | Imp Xray | Imp See | Obs Type | Time (UT) | Area Measurement Apparent ($10^{-6}$ Disk) | Area Measurement Corr (Sq Deg) | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LEAR | 14 | 0159 | 0201 | 0209 | S01 | E56 | | 09 | 18.3 | 10 | SN | | 3 | C | | 44 | | 3906 |
| PURP | 14 | 0202E | 0202 | 0247 | S00 | E55 | | 09 | 18.2 | 45D | SB | | | P | 0202 | 84 | 1.5 | E |
| PALE | 14 | 0224 | 0227 | 0235 | S24 | W26 | | 09 | 12.1 | 11 | SF | | 3 | C | | 23 | | 3902 |
| LEAR | 14 | 0253 | 0255 | 0300 | S00 | E57 | | 09 | 18.4 | 7 | SF | | 3 | C | | 29 | | 3906 |
| ISTA | 14 | 0620E | | 0632 | S18 | E60 | | 09 | 18.8 | 12D | SF | | | | | | | E |
| WEND | 14 | 0735 | 0737 | 0744 | S07 | W38 | | 09 | 11.5 | 9 | SF | | | C | 0737 | 18 | .2 | |
| ISTA | 14 | 0739E | | 0749 | S09 | W40 | | 09 | 11.3 | 10D | SN | | | | | | | D |
| ISTA | 14 | 0752 | | 0757 | N00 | E53 | | 09 | 18.3 | 5 | SN | | | | | | | D |
| PURP | 14 | 0753E | 0753 | 0753D | S00 | E53 | | 09 | 18.3 | 5D | SF | | | P | 0753 | 52 | .9 | E |
| RAMY | 14 | 1225 | 1225 | 1256 | S16 | E51 | | 09 | 18.4 | 31 | SN | | 3 | C | | 127 | | 3905 |
| HOLL | 14 | 1834 | 1834 | 1838 | S08 | W50 | | 09 | 11.0 | 4 | SF | | 3 | C | | 17 | | F 3895 |
| HOLL | 14 | 2011 | 2024 | 2045 | N15 | E72 | | 09 | 20.3 | 34 | SN | | 3 | C | | 40 | | 3908 |
| PALE | 14 | 2015E | 2029U | 2041D | N18 | E75 | | 09 | 20.6 | 26D | SF | | 3 | C | | | | 3908 |
| HOLL | 14 | 2229 | 2230 | 2254 | N01 | E44 | | 09 | 18.2 | 25 | SF | | 3 | C | | 41 | | 3906 |
| HOLL | 15 | 0009 | 0012 | 0026D | S11 | W72 | | 09 | 9.6 | 17D | SF | | 3 | C | | | | 3899 |
| HOLL | 15 | 0023 | 0026 | 0026D | N17 | E77 | | 09 | 20.9 | 3D | SF | | 3 | C | | 9 | | 3908 |
| PURP | 15 | 0026E | 0026U | 0242 | N15 | E69 | | 09 | 20.3 | 136D | SB | | | C | 0026 | 58 | | |
| LEAR | 15 | 0155 | 0221 | 0251D | N16 | E70 | | 09 | 20.4 | 56D | 1B | | 3 | C | | 138 | | FE 3908 |
| PURP | 15 | 0200E | 0200 | 0200D | N15 | E70 | | 09 | 20.4 | 56D | SN | | | P | 0200 | 35 | | |
| PEKG | 15 | 0216E | 0223 | 0235 | N15 | E70 | | 09 | 20.4 | 19D | SN | | | P | 0223 | 55 | | E |
| LEAR | 15 | 0602 | 0603 | 0632 | N15 | E70 | | 09 | 20.5 | 30 | 1B | | 2 | C | | 195 | | FE 3908 |
| PEKG | 15 | 0603E | 0610 | 0615 | N15 | E69 | | 09 | 20.5 | 12D | SN | | | P | 0610 | 118 | | E |
| PEKG | 15 | 0730 | 0754 | 0806D | N15 | E67 | | 09 | 20.4 | 36D | SN | | | C | 0754 | 25 | | E |
| PEKG | 15 | 0745 | 0754 | 0801D | S14 | E08 | | 09 | 15.9 | 16D | SF | | | P | 0754 | 126 | 1.4 | E |
| LEAR | 15 | 0749E | 0801U | 0826 | N15 | E67 | | 09 | 20.4 | 37D | SF | | 2 | C | | 23 | | 3908 |
| LEAR | 15 | 0749E | 0806U | 0829 | S14 | E13 | | 09 | 16.3 | 40D | SF | | 2 | C | | 147 | | F 3901 |
| WEND | 15 | 0750 | 0756 | 0805 | N17 | E68 | | 09 | 20.5 | 15 | SN | | | C | 0756 | 16 | | |
| WEND | 15 | 0800E | | 0836D | S16 | E10 | | 09 | 16.1 | 36D | SF | | | C | 0811 | 100 | 1.1 | |
| WEND | 15 | 0853 | 0854 | 0859 | N15 | E74 | | 09 | 21.0 | 6 | SN | | | C | 0854 | 28 | | |
| RAMY | 15 | 1334 | 1339 | 1408 | N16 | E64 | | 09 | 20.4 | 34 | SN | | 3 | C | | 59 | | 3908 |
| RAMY | 15 | 1645 | 1645 | 1705 | N16 | E81 | | 09 | 21.8 | 20 | SF | | 3 | C | | | | |
| RAMY | 15 | 1658 | 1706 | 1730 | S16 | E36 | | 09 | 18.4 | 32 | SF | | 3 | C | | 60 | | 3905 |
| HOLL | 15 | 1712E | 1713U | 1719D | S14 | E37 | | 09 | 18.5 | 7D | SF | | 3 | C | | 28 | | F 3905 |
| RAMY | 15 | 1728 | 1729 | 1736 | S13 | E03 | | 09 | 15.9 | 8 | SF | | 3 | C | | 27 | | F 3901 |
| RAMY | 15 | 1728 | 1750 | 1815 | S14 | E05 | | 09 | 16.1 | 47 | SF | | 3 | C | | 54 | | 3901 |
| RAMY | 15 | 1817 | 1826 | 1903 | N17 | E61 | | 09 | 20.4 | 46 | 3B | | 3 | C | | 1348 | | FE 3908 |
| HOLL | 15 | 1818 | 1824 | 1903 | N18 | E60 | | 09 | 20.3 | 45 | 1B | | 3 | C | | 298 | | UE 3908 |
| PALE | 15 | 1824E | 1824U | 1900 | N17 | E60 | | 09 | 20.3 | 36D | 2B | | 3 | C | | 546 | | UE 3908 |
| ISTA | 16 | 0655 | | 0708D | N01 | E23 | | 09 | 18.0 | 13D | SB | | | | | | | D |
| LEAR | 16 | 0659 | 0700 | 0702 | S14 | E22 | | 09 | 17.9 | 3 | SF | | 3 | C | | 35 | | 3905 |
| KAND | 16 | 0727 | 0736 | | S26 | E26 | | 09 | 18.3 | | SF | | | C | | | | |
| KAND | 16 | 0741 | 0805 | | S26 | E26 | | 09 | 18.3 | | SF | | | C | | | | T |
| KAND | 16 | 0809 | 0823 | | S26 | E26 | | 09 | 18.4 | | SF | | | C | | | | |
| KAND | 16 | 0834 | 0922D | | S26 | E26 | | 09 | 18.4 | | SF | | | C | | | | |
| KAND | 16 | 1131 | 1137 | | S26 | E26 | | 09 | 18.5 | | SN | | | C | | | | |
| RAMY | 16 | 1322 | 1324 | 1340 | S15 | E25 | | 09 | 18.4 | 18 | SN | | 3 | C | | 47 | | 3905 |
| HOLL | 16 | 1328E | 1330 | 1357D | N26 | E41 | | 09 | 19.8 | 29D | SN | | 3 | C | | 100 | | K 3908 |
| HOLL | 16 | 1328E | 1356 | 1357D | N26 | E41 | | 09 | 19.8 | 29D | SB | | 3 | C | | 75 | | Z K 3908 |
| RAMY | 16 | 1750 | 1750 | 1802 | N20 | E51 | | 09 | 20.6 | 12 | SN | | 3 | C | | 30 | | 3908 |
| RAMY | 16 | 1752 | 1752 | 1754 | N17 | E48 | | 09 | 20.4 | 2 | SF | | 3 | C | | 29 | | 3910 |
| WEND | 17 | 0646 | 0652 | 0711 | N16 | W27 | | 09 | 15.2 | 25 | SF | | | C | 0652 | 44 | .5 | |
| WEND | 17 | 0807 | 0818 | 0830 | N17 | W25 | | 09 | 15.4 | 23 | SF | | | C | 0818 | 63 | .7 | |
| HOLL | 17 | 1522 | 1522 | 1531 | S12 | E08 | | 09 | 18.2 | 9 | SN | | 3 | C | | 50 | | F 3905 |
| HOLL | 17 | 1522 | 1532 | 1540 | N22 | E54 | | 09 | 21.8 | 18 | SF | | 3 | C | | 25 | | 3910 |
| BIGB | 17 | 1523 | 1523 | 1540 | S12 | E08 | 18571 | 09 | 18.2 | 17 | SN | | 3 | C | 1523 | 100 | 1.0 | |
| LEAR | 18 | 0303 | 0304 | 0319 | N19 | E36 | | 09 | 20.9 | 16 | SN | | 3 | C | | 79 | | F 3908 |
| PEKG | 18 | 0335 | 0340 | 0355 | S18 | W37 | | 09 | 15.3 | 20 | SF | | | P | 0340 | 42 | .6 | D |
| LEAR | 18 | 0450 | 0453 | 0500 | N17 | E35 | | 09 | 20.9 | 10 | SF | | 3 | C | | 20 | | 3908 |
| PEKG | 18 | 0555 | 0601 | 0612 | N15 | E28 | | 09 | 20.4 | 17 | SF | | | P | 0601 | 42 | .5 | D |
| LEAR | 18 | 0657 | 0657 | 0708 | N18 | E34 | | 09 | 20.9 | 11 | SF | | 3 | C | | 21 | | 3908 |
| LEAR | 18 | 0755 | 0757 | 0802 | S17 | W02 | | 09 | 18.2 | 7 | SF | | 3 | C | | 38 | | 3905 |
| RAMY | 18 | 1217 | 1404 | 1503 | N19 | E29 | | 09 | 20.7 | 166 | SN | | 3 | C | | 147 | | 3908 |
| RAMY | 18 | 1623 | 1625 | 1632 | N18 | E27 | | 09 | 20.7 | 9 | SN | | 3 | C | | 33 | | 3908 |
| PALE | 18 | 1832 | 1832 | 1839 | N01 | W10 | | 09 | 18.0 | 7 | SF | | 3 | C | | 27 | | F 3906 |
| PALE | 18 | 1907 | 1908 | 1913 | N17 | E34 | | 09 | 21.4 | 6 | SF | | 3 | C | | 23 | | 3910 |
| BIGB | 18 | 2350 | 2353 | 0020E | S09 | E17 | 18567 | 09 | 20.3 | 30 | SN | | 3 | P | 2353 | 80 | .9 | |
| PEKG | 18 | 2354 | 2356 | 2406 | S09 | E17 | | 09 | 20.3 | 12 | SF | | | C | 2356 | 46 | .5 | D |

# H - ALPHA SOLAR FLARES

## SEPTEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | Big Bear Plage Region | CMP Mo | CMP Day | Dur (Min) | Imp Opt | Imp Xray | See | Obs Type | Area Measurement Time (UT) | Area Measurement Apparent ($10^{-6}$ Disk) | Area Measurement Corr (Sq Deg) | Remarks | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LEAR | 19 | 0217 | 0217 | 0224 | S16 | W12 | | 09 | 18.2 | 7 | SF | | 3 | C | | 20 | | | 3905 |
| PEKG | 19 | 0308 | 0309 | 0317 | N01 | W12 | | 09 | 18.2 | 9 | SF | | | C | 0309 | 71 | .8 | E | |
| PEKG | 19 | 0605 | 0606 | 0610 | N15 | E39 | | 09 | 22.2 | 5 | SF | | | P | 0606 | 50 | .6 | E | |
| LEAR | 19 | 0605 | 0605 | 0609 | N16 | E39 | | 09 | 22.2 | 4 | SF | | 3 | C | | 24 | | | 3910 |
| WEND | 19 | 0805 | 0811 | 0816 | N17 | E36 | | 09 | 22.1 | 11 | SF | | | C | 0811 | 31 | .4 | | |
| LEAR | 19 | 0809 | 0811 | 0826 | N14 | E34 | | 09 | 21.9 | 17 | SF | | 3 | C | | 37 | | | 3910 |
| RAMY | 19 | 1351 | 1436 | 1445D | S12 | E02 | | 09 | 19.7 | 54D | 2N | | 3 | C | | 575 | | ZF | 3907 |
| HOLL | 19 | 1419 | 1512 | 1804 | S15 | E07 | | 09 | 20.1 | 225 | 2B | | 3 | C | | 1091 | | UE | 3907 |
| HOLL | 19 | 1435 | 1438 | 1509 | S17 | W19 | | 09 | 18.2 | 34 | SF | | 3 | C | | 31 | | F | 3905 |
| WEND | 19 | 1503E | 1516 | 1630D | S14 | E07 | | 09 | 20.2 | 87D | 2B | | | C | 1516 | 700 | 7.5 | | |
| HOLL | 19 | 1808 | 1814 | 1815 | S09 | E06 | | 09 | 20.2 | 7 | SF | | 3 | C | | 25 | | | 3907 |
| PALE | 19 | 1930 | 1932 | 1933 | S17 | E05 | | 09 | 20.2 | 3 | SF | | 2 | C | | 101 | | | 3907 |
| HOLL | 19 | 1954 | 1954 | 2000 | S09 | E05 | | 09 | 20.2 | 6 | SF | | 3 | C | | 42 | | F | 3907 |
| PALE | 19 | 2032 | 2033 | 2036 | N18 | E26 | | 09 | 21.8 | 4 | SF | | 2 | C | | 37 | | | 3910 |
| PALE | 19 | 2133 | 2134 | 2140 | N16 | E26 | | 09 | 21.9 | 7 | SF | | 3 | C | | 34 | | | 3910 |
| HOLL | 19 | 2257 | 2259 | 2313 | N15 | E29 | | 09 | 22.1 | 16 | SN | | 3 | C | | 47 | | | 3910 |
| PEKG | 19 | 2305 | 2310 | 2350 | N16 | E29 | | 09 | 22.2 | 45 | SF | | | P | 2310 | 168 | 2.0 | EK | |
| PEKG | 19 | 2305 | 2325 | 2350 | N17 | E29 | | 09 | 22.2 | 45 | SF | | | P | 2325 | 168 | 2.0 | F | |
| HOLL | 19 | 2315 | 2319 | 2338D | N15 | E29 | | 09 | 22.2 | 23D | 1N | | 3 | C | | 427 | | F | 3910 |
| LEAR | 19 | 2342E | 2342U | 2352 | N16 | E29 | | 09 | 22.2 | 10D | SF | | 3 | C | | 29 | | F | 3910 |
| LEAR | 20 | 0136 | 0143 | 0201 | N18 | E11 | | 09 | 20.9 | 25 | SF | | 3 | C | | 22 | | FH | 3908 |
| LEAR | 20 | 0239 | 0240 | 0249 | S09 | W02 | | 09 | 20.0 | 10 | SN | | 3 | C | | 140 | | | 3907 |
| PALE | 20 | 0239 | 0240 | 0246 | S09 | W05 | | 09 | 19.7 | 7 | SB | | 3 | C | | 121 | | FE | 3907 |
| PEKG | 20 | 0240 | 0241 | 0246 | S09 | W03 | | 09 | 19.9 | 6 | SB | | | C | 0241 | 109 | 1.2 | E | |
| PEKG | 20 | 0305E | 0305 | 0315 | S09 | E01 | | 09 | 20.2 | 10D | SF | | | P | 0305 | 29 | .3 | D | |
| PEKG | 20 | 0535E | 0535 | 0539 | S15 | W02 | | 09 | 20.1 | 4D | SF | | | P | 0535 | 34 | .4 | E | |
| KAND | 20 | 0855E | 0906 | | S12 | W01 | | 09 | 20.3 | D | SN | | | C | | | | | |
| RAMY | 20 | 1309 | 1310 | 1313 | N16 | E11 | | 09 | 21.4 | 4 | SN | | 3 | C | | 42 | | | 3910 |
| RAMY | 20 | 1404 | 1405 | 1414 | S12 | W07 | | 09 | 20.1 | 10 | SN | | 3 | C | | 23 | | F | 3907 |
| RAMY | 20 | 1656 | 1701 | 1712 | S12 | W13 | | 09 | 19.7 | 16 | SF | | 3 | C | | 40 | | | 3907 |
| BIGB | 20 | 1657 | 1703 | 1717 | S12 | W13 | 18567 | 09 | 19.7 | 20 | SF | | 3 | C | 1703 | 70 | .7 | | |
| BIGB | 20 | 1744 | 1746 | 1801 | N21 | W03 | 18566 | 09 | 20.5 | 17 | SF | | 3 | C | 1746 | 80 | .8 | | |
| PALE | 20 | 1747 | 1748 | 1755 | N21 | W03 | | 09 | 20.5 | 8 | SF | | 3 | C | | 30 | | F | 3908 |
| PEKG | 21 | 0306 | 0314 | 0324 | N17 | W07 | | 09 | 20.6 | 18 | SF | | | P | 0314 | 34 | .4 | E | |
| PEKG | 21 | 0314E | 0314 | 0330 | S09 | W13 | | 09 | 20.2 | 16D | SF | | | P | 0314 | 59 | .6 | E | |
| PEKG | 21 | 0504 | 0507 | 0512 | S18 | W18 | | 09 | 19.8 | 8 | SF | | | P | 0507 | 50 | .6 | D | |
| PEKG | 21 | 0725 | 0726 | 0729 | N18 | E12 | | 09 | 22.2 | 4 | SF | | | P | 0726 | 97 | 1.0 | E | |
| PURP | 21 | 0845 | 0851 | 0857 | N15 | E22 | | 09 | 23.0 | 12 | SF | | | C | 0851 | 9 | .1 | E | |
| PEKG | 21 | 0850 | 0854 | 0855D | N16 | E20 | | 09 | 22.9 | 5D | SF | | | P | 0854 | 67 | .8 | E | |
| PEKG | 21 | 0853 | 0854 | 0855 | N17 | W06 | | 09 | 20.9 | 2 | SF | | | C | 0854 | 25 | .3 | D | |
| LEAR | 21 | 0918 | 0928 | 0930D | N01 | W41 | | 09 | 18.3 | 12D | SN | | 3 | C | | 94 | | F | 3906 |
| YUNN | 21 | 0920 | 0937 | 0955 | S00 | W43 | | 09 | 18.2 | 35 | SB | | | C | | 80 | 1.1 | | |
| KAND | 21 | 0921 | 1002 | | N00 | W43 | | 09 | 18.2 | | 1B | | | C | | | | G | |
| KAND | 21 | 0944E | 0932 | | N14 | W16 | | 09 | 20.2 | D | SN | | | C | | | | D | |
| KAND | 21 | 1012 | 1033 | | S17 | W19 | | 09 | 20.0 | | SN | | | C | | | | D | |
| RAMY | 21 | 1540 | 1544 | 1608 | N19 | W03 | | 09 | 21.4 | 28 | SF | | 3 | C | | 32 | | | 3910 |
| PALE | 21 | 1921E | 1921U | 1946 | N14 | W01 | | 09 | 21.7 | 25D | SN | | 3 | C | | 46 | | | 3910 |
| BIGB | 21 | 1921 | 1924 | 1950 | N14 | W01 | 18568 | 09 | 21.7 | 29 | SN | | 3 | C | 1924 | 100 | 1.0 | | |
| PALE | 21 | 2212 | 2238 | 2259 | N18 | W18 | | 09 | 20.5 | 47 | SF | | 3 | C | | 25 | | | 3908 |
| PALE | 22 | 0002 | 0009 | 0020 | S13 | W27 | | 09 | 20.0 | 18 | SF | | 3 | C | | 60 | | | 3907 |
| BIGB | 22 | 0002 | 0008 | 0010E | S13 | W17 | 18567 | 09 | 20.7 | 8 | SN | | 3 | P | 0008 | 110 | 1.3 | | |
| PEKG | 22 | 0005E | 0005 | 0007 | S08 | W25 | | 09 | 20.1 | 2D | SF | | | C | 0005 | 59 | .7 | E | |
| PALE | 22 | 0013 | 0021 | 0031 | N18 | W19 | | 09 | 20.6 | 18 | SF | | 3 | C | | 21 | | | 3908 |
| LEAR | 22 | 0517 | 0518 | 0543 | N15 | W16 | | 09 | 21.0 | 26 | SF | | 3 | C | | 79 | | F | 3908 |
| PURP | 22 | 0617E | 0617 | 0621 | S14 | W24 | | 09 | 20.4 | 4D | SF | | | P | 0617 | 26 | .3 | | |
| LEAR | 22 | 0922 | 0925 | 0935 | N14 | W14 | | 09 | 21.3 | 13 | SB | | 3 | C | | 83 | | H | 3910 |
| HOLL | 22 | 1546 | 1620 | 1633 | S13 | W34 | | 09 | 20.1 | 47 | SF | | 3 | C | | 30 | | F | 3907 |
| HOLL | 22 | 1610 | 1612 | 1624 | S09 | W04 | | 09 | 22.4 | 14 | SN | | 3 | C | | 26 | | F | 3913 |
| BIGB | 22 | 1610 | 1612 | 1636 | S09 | W04 | 18573 | 09 | 22.4 | 26 | SN | | 3 | C | 1612 | 80 | .8 | | |
| PALE | 22 | 1809 | 1817 | 1820 | S15 | W34 | | 09 | 20.2 | 11 | SF | | 3 | C | | 23 | | | 3907 |
| HOLL | 22 | 1821 | 1824 | 1830 | N13 | W19 | | 09 | 21.3 | 9 | SB | | 3 | C | | 47 | | EH | 3910 |
| PALE | 22 | 1822 | 1822 | 1830 | N13 | W19 | | 09 | 21.3 | 8 | SB | | 3 | C | | 99 | | | 3910 |
| PALE | 22 | 1917 | 1921 | 1935 | N13 | W16 | | 09 | 21.6 | 18 | SN | | 3 | C | | 40 | | F | 3910 |
| PALE | 22 | 1952 | 1955 | 2003 | N13 | W20 | | 09 | 21.3 | 11 | SB | | 3 | C | | 63 | | H | 3910 |
| HOLL | 22 | 1952 | 1954 | 1959 | N13 | W20 | | 09 | 21.3 | 7 | SB | | 4 | C | | 49 | | H | 3910 |
| HOLL | 22 | 2023 | 2025 | 2031 | S13 | W36 | | 09 | 20.1 | 8 | SB | | 4 | C | | 42 | | H | 3907 |
| PALE | 22 | 2024 | 2024 | 2029 | S11 | W38 | | 09 | 20.0 | 5 | SN | | 3 | C | | 33 | | | 3907 |
| BIGB | 22 | 2109 | 2110 | 2121 | N13 | W21 | 18568 | 09 | 21.3 | 12 | SB | | 3 | C | 2110 | 70 | .8 | | |

# H - ALPHA SOLAR FLARES

SEPTEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | Big Bear Plage Region | CMP Mo | CMP Day | Dur (Min) | Imp Opt | Imp Xray | Obs See | Obs Type | Area Measurement Time (UT) | Area Measurement Apparent ($10^{-6}$ Disk) | Area Measurement Corr (Sq Deg) | Remarks | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PALE | 22 | 2110 | 2111 | 2117 | N11 | W20 | | 09 | 21.4 | 7 | SB | | 3 | C | | 75 | | | 3910 |
| HOLL | 22 | 2110 | 2111 | 2119 | N13 | W21 | | 09 | 21.3 | 9 | SB | | 4 | C | | 62 | | H | 3910 |
| BIGB | 22 | 2310 | 2315 | 2322 | N13 | W22 | 18568 | 09 | 21.3 | 12 | SN | | 3 | C | 2315 | 80 | .9 | | |
| HOLL | 22 | 2311 | 2314 | 2331 | N13 | W22 | | 09 | 21.3 | 20 | SB | | 4 | C | | 82 | | | 3910 |
| LEAR | 22 | 2352 | 2356 | 0001 | N13 | W22 | | 09 | 21.3 | 9 | SB | | 3 | C | | 61 | | EH | 3910 |
| HOLL | 22 | 2352 | 2357 | 0003 | N13 | W22 | | 09 | 21.3 | 11 | SB | | 4 | C | | 50 | | H | 3910 |
| BIGB | 22 | 2352 | 2358 | 0008 | N13 | W22 | 18568 | 09 | 21.3 | 16 | SB | | 3 | C | 2358 | 70 | .8 | | |
| PEKG | 22 | 2353 | 2355 | 2431 | N12 | W22 | | 09 | 21.3 | 38 | SN | | | C | 2355 | 50 | .6 | DK | |
| PEKG | 22 | 2353 | 2423 | 2431 | N13 | W23 | | 09 | 21.3 | 38 | SN | | | C | 2423 | 42 | .5 | D | |
| PALE | 22 | 2358 | 2358 | | N11 | W22 | | 09 | 21.3 | | SB | | 3 | C | | 27 | | | 3910 |
| HOLL | 23 | 0022 | 0024 | 0034 | N11 | W22 | | 09 | 21.4 | 12 | SN | | 3 | C | | 38 | | | 3910 |
| LEAR | 23 | 0023 | 0023 | 0030 | N13 | W22 | | 09 | 21.3 | 7 | SF | | 3 | C | | 32 | | | 3910 |
| ISTA | 23 | 0630E | | 0657 | N11 | W25 | | 09 | 21.4 | 27D | SF | | | | | | | D | |
| ISTA | 23 | 0711 | | 0740 | N11 | W25 | | 09 | 21.4 | 29 | SN | | | | | | | BD | |
| PEKG | 23 | 0731 | 0738 | 0738D | N13 | W26 | | 09 | 21.3 | 7D | SF | | | P | 0738 | 42 | .5 | E | |
| KAND | 23 | 1140 | 1252 | | S05 | W90 | | 09 | 16.8 | | | | | P | | | | Y | |
| HOLL | 23 | 1405 | 1407 | 1411 | S13 | E79 | | 09 | 29.5 | 6 | SF | | 3 | C | | | | | |
| HOLL | 23 | 1415 | 1422 | 1427 | N11 | E67 | | 09 | 28.6 | 12 | SF | | 3 | C | | 10 | | | 3917 |
| BIGB | 23 | 1933 | 1941 | 1954 | N17 | W42 | 18566 | 09 | 20.6 | 21 | SN | | 3 | C | 1941 | 90 | 1.2 | | |
| PALE | 23 | 1941E | 1942U | 1948 | N17 | W42 | | 09 | 20.6 | 7D | SF | | 3 | C | | 40 | | | 3908 |
| LEAR | 23 | 2308 | 2310 | 2316 | N13 | W34 | | 09 | 21.4 | 8 | SB | | 3 | C | | 49 | | H | 3910 |
| HOLL | 23 | 2308E | 2310 | 2320 | N13 | W35 | | 09 | 21.3 | 12D | SB | | 4 | C | | 42 | | H | 3910 |
| BIGB | 23 | 2311E | 2313 | 2328 | N13 | W35 | 18568 | 09 | 21.3 | 17D | SB | | 3 | C | 2313 | 80 | 1.0 | | |
| PALE | 24 | 0017 | 0032 | 0036 | N12 | W35 | | 09 | 21.4 | 19 | SN | | 3 | C | | 34 | | | 3910 |
| PEKG | 24 | 0022 | 0023 | 0036 | N13 | W36 | | 09 | 21.3 | 14 | SF | | | C | 0023 | 42 | .5 | DK | |
| PEKG | 24 | 0022 | 0029 | 0036 | N13 | W36 | | 09 | 21.3 | 14 | SF | | | C | 0029 | 59 | .7 | E | |
| LEAR | 24 | 0027 | 0030 | 0038 | N14 | W28 | | 09 | 21.9 | 11 | SN | | 3 | C | | 41 | | | 3910 |
| PEKG | 24 | 0350 | 0352 | 0357 | S14 | W53 | | 09 | 20.1 | 7 | SF | | | P | 0352 | 25 | .5 | D | |
| PEKG | 24 | 0350 | 0352 | 0400 | N19 | W45 | | 09 | 20.7 | 10 | SN | | | P | 0352 | 71 | 1.0 | E | |
| PEKG | 24 | 0457E | 0457 | 0513 | N18 | W39 | | 09 | 21.2 | 16D | SN | | | P | 0457 | 55 | .7 | D | |
| LEAR | 24 | 0558 | 0559 | 0607 | S15 | W53 | | 09 | 20.2 | 9 | SF | | 3 | C | | 17 | | | 3907 |
| BUCA | 24 | 0700 | 0702 | 0710 | N15 | E78 | | 09 | 30.2 | 10 | SF | | | C | 0702 | 64 | | D | |
| LEAR | 24 | 0702 | 0705 | 0709 | N14 | E82 | | 09 | 30.5 | 7 | SF | | 3 | C | | | | | |
| LEAR | 24 | 0713 | 0715 | 0718 | S14 | E60 | | 09 | 28.8 | 5 | SF | | 3 | C | | 15 | | | 3919 |
| LEAR | 24 | 0819 | 0828 | 0836 | N18 | W46 | | 09 | 20.8 | 17 | SF | | 3 | C | | 52 | | F | 3908 |
| WEND | 24 | 0819 | 0822 | 0831 | N17 | W47 | | 09 | 20.8 | 12 | SN | | | C | 0822 | 30 | .5 | | |
| PURP | 24 | 0821E | 0821 | 0839 | N19 | W50 | | 09 | 20.5 | 18D | 1N | | | P | 0821 | 121 | 2.1 | E | |
| LEAR | 24 | 0844 | 0847 | 0849 | N14 | E79 | | 09 | 30.3 | 5 | SF | | 3 | C | | | | | |
| LEAR | 24 | 0858 | 0909 | 0913 | N14 | E81 | | 09 | 30.5 | 15 | SF | | 3 | C | | 29 | | | |
| WEND | 24 | 0908 | 0910 | 0916 | N16 | E77 | | 09 | 30.2 | 8 | SN | | | C | 0910 | 28 | | | |
| WEND | 24 | 1000 | 1005 | 1009 | N15 | W29 | | 09 | 22.2 | 9 | SF | | | C | 1005 | 34 | .4 | | |
| RAMY | 24 | 1317 | 1326 | 1340 | S10 | W29 | | 09 | 22.4 | 23 | SF | | 3 | C | | 24 | | | 3913 |
| RAMY | 24 | 1340 | 1343 | 1606 | N15 | E75 | | 09 | 30.3 | 146 | SF | | 3 | C | | | | | |
| RAMY | 24 | 1416 | 1416 | 1420 | S09 | E62 | | 09 | 29.3 | 4 | SF | | 3 | C | | 21 | | | 3919 |
| RAMY | 24 | 1548 | 1555 | 1610 | S12 | E54 | | 09 | 28.7 | 22 | SF | | 3 | C | | 44 | | | 3919 |
| PALE | 24 | 1812 | 1813 | 1838 | S09 | E58 | | 09 | 29.1 | 26 | SF | | 3 | C | | 69 | | F | 3919 |
| HOLL | 24 | 1818E | 1818U | 1823 | S11 | E59 | | 09 | 29.2 | 5D | SF | | 3 | C | | 33 | | F | |
| HOLL | 24 | 1954E | 1958 | 2028 | S14 | E53 | | 09 | 28.8 | 34D | SN | | 3 | C | | 62 | | F | 3919 |
| PALE | 24 | 2022 | 2029 | 2052 | N18 | W56 | | 09 | 20.6 | 30 | SF | | 3 | C | | 133 | | | 3908 |
| PURP | 25 | 0020 | 0028 | 0122D | N23 | E68 | | 09 | 30.3 | 62D | SN | | | C | 0028 | 39 | | | |
| PALE | 25 | 0040 | 0042 | 0045 | N15 | E68 | | 09 | 30.2 | 5 | SF | | 3 | C | | 65 | | | 3922 |
| LEAR | 25 | 0146 | 0148 | 0200 | S03 | E90 | | 10 | 1.8 | 14 | SF | | 3 | C | | | | | 3923 |
| PALE | 25 | 0146 | 0148 | 0151 | N18 | W57 | | 09 | 20.7 | 5 | SF | | 3 | C | | 30 | | | 3908 |
| PALE | 25 | 0216 | 0225 | 0236 | N15 | E67 | | 09 | 30.2 | 20 | SN | | 3 | C | | 26 | | | 3922 |
| LEAR | 25 | 0224 | 0224 | 0233 | N14 | E69 | | 09 | 30.3 | 9 | SF | | 3 | C | | 20 | | | 3922 |
| LEAR | 25 | 0348 | 0349 | 0357 | N14 | E69 | | 09 | 30.4 | 9 | SF | | 3 | C | | 14 | | | 3922 |
| WEND | 25 | 0806 | 0812 | 0831 | N16 | E16 | | 09 | 26.5 | 25 | SN | | | C | 0812 | 50 | .6 | | |
| WEND | 25 | 0822 | 0824 | 0827 | N13 | E46 | | 09 | 28.8 | 5 | SN | | | C | 0824 | 25 | .4 | | |
| RAMY | 25 | 1442 | 1444 | 1448 | S09 | E49 | | 09 | 29.3 | 6 | SB | | 3 | C | | 22 | | | 3919 |
| PALE | 26 | 0115 | 0116 | 0120 | N14 | E35 | | 09 | 28.7 | 5 | SF | | 3 | C | | 21 | | | 3917 |
| PEKG | 26 | 0347E | 0353 | 0400 | N15 | E42 | | 09 | 29.3 | 13D | SF | | | P | 0353 | 46 | .6 | E | |
| LEAR | 26 | 0516 | 0517 | 0525 | S13 | E33 | | 09 | 28.7 | 9 | SF | | 3 | C | | 43 | | F | 3919 |
| LEAR | 26 | 0824 | 0828 | 0843 | N14 | E52 | | 09 | 30.3 | 19 | SF | | 3 | C | | 29 | | F | 3922 |
| RAMY | 26 | 1220 | 1314 | 1314D | N15 | E36 | | 09 | 29.2 | 54D | 1N | | 3 | C | | 299 | | | 3917 |
| RAMY | 26 | 1234 | 1329 | 1353 | N13 | E48 | | 09 | 30.1 | 79 | SF | | 3 | C | | 27 | | | 3922 |
| HOLL | 26 | 1605 | 1605 | 1613 | N13 | W71 | | 09 | 21.3 | 8 | SF | | 3 | C | | 20 | | | 3908 |
| RAMY | 26 | 1634 | 1634 | 1652 | S04 | E63 | | 10 | 1.4 | 18 | SF | | 3 | C | | 27 | | | 3923 |

# H - ALPHA S O L A R F L A R E S

## SEPTEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | Big Bear Plage Region | CMP Mo | CMP Day | Dur (Min) | Imp Opt | Imp Xray | See | Obs Type | Area Measurement Time (UT) | Area Measurement Apparent ((10$^{-6}$ Disk) | Area Measurement Corr (Sq Deg) | Remarks | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HOLL | 26 | 1659 | 1717 | 1733 | N14 | E30 | | 09 | 29.0 | 34 | SB | | 3 | C | | 106 | | | 3917 |
| HOLL | 26 | 1834 | 1836 | 1853 | S12 | E26 | | 09 | 28.7 | 19 | SB | | 3 | C | | 71 | | F | 3919 |
| PALE | 26 | 1835 | 1837 | 1845 | S11 | E27 | | 09 | 28.8 | 10 | SB | | 3 | C | | 67 | | FE | 3919 |
| PALE | 26 | 1842 | 1849 | 1919 | N16 | E34 | | 09 | 29.4 | 37 | SN | | 3 | C | | 31 | | | 3917 |
| HOLL | 26 | 1903E | 1903U | 1912 | S14 | W84 | | 09 | 20.4 | 9D | SF | | 3 | C | | | | | 3907 |
| PALE | 26 | 1913 | 1914 | 1918 | N15 | E47 | | 09 | 30.4 | 5 | SN | | 3 | C | | 18 | | | 3922 |
| PALE | 26 | 1946 | 1951 | 2005D | N16 | E29 | | 09 | 29.0 | 19D | SN | | 3 | C | | 60 | | | 3917 |
| HOLL | 26 | 2020 | 2022 | 2024D | S12 | E25 | | 09 | 28.7 | 4D | SB | | 3 | C | | 96 | | E | 3919 |
| PALE | 26 | 2022 | 2023 | 2030 | S11 | E25 | | 09 | 28.7 | 8 | SN | | 3 | C | | 98 | | FH | 3919 |
| HOLL | 26 | 2025 | 2037 | 2054 | N20 | W80 | | 09 | 20.7 | 29 | 1N | | 4 | C | | | | F | 3908 |
| HOLL | 26 | 2044 | 2053 | 2135D | N15 | E43 | | 09 | 30.1 | 51D | SN | | 4 | C | | 53 | | | 3922 |
| HOLL | 26 | 2100 | 2113 | 2135D | N18 | E36 | | 09 | 29.6 | 35D | SN | | 4 | C | | 74 | | | 3917 |
| PALE | 26 | 2111 | 2147 | 2158D | N15 | E38 | | 09 | 29.8 | 47D | SN | | 3 | C | | 82 | | | 3922 |
| PALE | 26 | 2315E | 2326U | 0021D | N17 | E31 | | 09 | 29.3 | 66D | 1B | | 3 | C | | 266 | | FE | 3917 |
| LEAR | 26 | 2317 | 2323 | 0012 | N14 | E30 | | 09 | 29.2 | 55 | SB | | 3 | C | | 139 | | FEK | 3917 |
| LEAR | 26 | 2317 | 2336 | 0012 | N14 | E30 | | 09 | 29.2 | 55 | SN | | 3 | C | | 166 | | K | 3917 |
| HOLL | 26 | 2317 | 2337 | 0012 | N15 | E30 | | 09 | 29.2 | 55 | 1B | | 3 | C | | 264 | | | 3917 |
| MANI | 26 | 2319E | 2324 | 2350D | N15 | E30 | | 09 | 29.2 | 31D | SN | | 1 | V | | 150 | 1.8 | F | |
| PEKG | 26 | 2339E | 2339 | 2350 | N15 | E30 | | 09 | 29.3 | 11D | SN | | | P | 2339 | 168 | 2.0 | FZ | |
| LEAR | 27 | 0023 | 0026 | 0057 | S13 | E28 | | 09 | 29.1 | 34 | SN | | 3 | C | | 101 | | F | 3919 |
| PALE | 27 | 0026E | 0028U | 0036 | S11 | E27 | | 09 | 29.0 | 10D | SN | | 3 | C | | 48 | | | 3919 |
| PALE | 27 | 0030E | 0031U | 0045 | S10 | W21 | | 09 | 25.4 | 15D | SF | | 3 | C | | 29 | | | 3925 |
| LEAR | 27 | 0123 | 0123 | 0157 | S09 | E28 | | 09 | 29.2 | 34 | SN | | 3 | C | | 20 | | | 3919 |
| PEKG | 27 | 0124 | 0133 | 0144 | S09 | E27 | | 09 | 29.1 | 20 | SF | | | C | 0133 | 59 | .7 | E | |
| PALE | 27 | 0125 | 0128 | 0159 | S07 | E27 | | 09 | 29.1 | 34 | SN | | 3 | C | | 32 | | F | 3919 |
| LEAR | 27 | 0136 | 0141 | 0151 | N13 | E20 | | 09 | 28.6 | 15 | SF | | 3 | C | | 63 | | F | 3917 |
| LEAR | 27 | 0140 | 0145 | 0156 | N09 | E70 | | 10 | 2.3 | 16 | SF | | 3 | C | | 68 | | F | 3926 |
| PALE | 27 | 0140 | 0141 | 0211 | N11 | E70 | | 10 | 2.3 | 31 | SF | | 3 | C | | 22 | | | 3926 |
| LEAR | 27 | 0336 | 0339 | 0346 | N13 | E40 | | 09 | 30.2 | 10 | SN | | 3 | C | | 50 | | F | 3922 |
| PEKG | 27 | 0406 | 0409 | 0453 | N11 | E35 | | 09 | 29.8 | 47 | SF | | | C | 0409 | 147 | 1.8 | FK | |
| PEKG | 27 | 0406 | 0434 | 0453 | N12 | E34 | | 09 | 29.7 | 47 | SF | | | C | 0434 | 67 | .8 | F | |
| PEKG | 27 | 0406E | 0409 | 0417 | N15 | E32 | | 09 | 29.6 | 11D | SN | | | P | 0409 | 84 | 1.0 | E | |
| LEAR | 27 | 0406 | 0408 | 0435 | N14 | E30 | | 09 | 29.4 | 29 | SF | | 3 | C | | 83 | | F | 3917 |
| LEAR | 27 | 0407 | 0410 | 0445 | N13 | E36 | | 09 | 29.9 | 38 | SN | | 3 | C | | 36 | | F | 3922 |
| PEKG | 27 | 0434E | 0434 | 0435 | N15 | E31 | | 09 | 29.5 | 1D | SF | | | P | 0434 | 34 | .4 | E | |
| PEKG | 27 | 0705 | 0728 | 0745 | N15 | E27 | | 09 | 29.3 | 40 | SF | | | C | 0728 | 105 | 1.2 | E | |
| RAMY | 27 | 1227 | 1230 | 1242 | S03 | E52 | | 10 | 1.4 | 15 | SN | | 3 | C | | 50 | | | 3923 |
| RAMY | 27 | 1532 | 1532 | 1559 | N15 | E35 | | 09 | 30.3 | 27 | SN | | 3 | C | | 26 | | F | 3922 |
| RAMY | 27 | 1604 | 1618 | 1630 | N17 | E37 | | 09 | 30.5 | 26 | SB | | 3 | C | | 109 | | | 3922 |
| BIGB | 27 | 1620E | 1621 | 1629 | N17 | E37 | 18584 | 09 | 30.5 | 9D | SB | | 3 | P | 1621 | 60 | .8 | | |
| BIGB | 27 | 1903 | 1905 | 1926 | N18 | E30 | 18584 | 09 | 30.1 | 23 | SB | | 3 | C | 1905 | 80 | 1.0 | | |
| PALE | 27 | 1910 | 1917 | 1924D | S08 | E17 | | 09 | 29.1 | 14D | SB | | 3 | C | | 147 | | F | 3919 |
| BIGB | 27 | 1910 | 1918 | 1951 | S03 | E17 | 18587 | 09 | 29.1 | 41 | SN | | 2 | C | 1918 | 90 | 1.0 | | |
| BIGB | 27 | 1952 | 1953 | 2024 | S11 | E15 | 18587 | 09 | 29.0 | 32 | SN | | 3 | C | 1953 | 80 | .9 | | |
| PALE | 27 | 2153 | 2153 | 2155 | N17 | E34 | | 09 | 30.5 | 2 | SF | | 3 | C | | 34 | | F | 3922 |
| BIGB | 27 | 2216 | 2218 | 2224 | N16 | E35 | 18584 | 09 | 30.6 | 8 | SN | | 3 | C | 2218 | 80 | 1.0 | | |
| LEAR | 27 | 2341 | 2343 | 2346 | S18 | E39 | | 09 | 31.0 | 5 | SF | | 3 | C | | 37 | | | 3924 |
| LEAR | 28 | 0035 | 0038 | 0041 | S18 | E38 | | 09 | 30.9 | 6 | SF | | 3 | C | | 26 | | | 3924 |
| LEAR | 28 | 0043 | 0044 | 0054 | N15 | E29 | | 09 | 30.2 | 11 | SN | | 3 | C | | 45 | | | 3922 |
| LEAR | 28 | 0308 | 0312 | 0322 | N15 | E31 | | 09 | 30.5 | 14 | SN | | 3 | C | | 48 | | F | 3922 |
| LEAR | 28 | 0340 | 0347 | 0436 | N18 | E16 | | 09 | 29.4 | 56 | SN | | 3 | C | | 95 | | F K | 3917 |
| LEAR | 28 | 0340 | 0423 | 0436 | N18 | E16 | | 09 | 29.4 | 56 | SN | | 3 | C | | 63 | | K | 3917 |
| PEKG | 28 | 0341E | 0345 | 0420 | N19 | E17 | | 09 | 29.4 | 39D | SN | | | C | 0345 | 88 | 1.0 | E | |
| LEAR | 28 | 0408 | 0414 | 0453 | N15 | E27 | | 09 | 30.2 | 45 | SF | | 3 | C | | 50 | | K | 3922 |
| LEAR | 28 | 0408 | 0446 | 0453 | N15 | E27 | | 09 | 30.2 | 45 | SN | | 3 | C | | 83 | | F K | 3922 |
| LEAR | 28 | 0449 | 0451 | 0455 | S18 | W13 | | 09 | 27.2 | 6 | SF | | 3 | C | | 41 | | | 3916 |
| LEAR | 28 | 0502 | 0504 | 0517 | N14 | E29 | | 09 | 30.4 | 15 | SF | | 3 | C | | 35 | | F | 3922 |
| RAMY | 28 | 1406 | 1408 | 1442 | S11 | E06 | | 09 | 29.0 | 36 | SN | | 3 | C | | 72 | | F | 3919 |
| BIGB | 28 | 1808 | 1808 | 1831 | N14 | W01 | 18583 | 09 | 28.7 | 23 | SF | | 3 | C | 1808 | 60 | .6 | | |
| BIGB | 28 | 1808 | 1819 | 1903 | S03 | E35 | 18586 | 10 | 1.4 | 55 | SN | | 3 | C | 1819 | 90 | 1.1 | | |
| BIGB | 28 | 1809 | 1821 | 1916 | S12 | E04 | 18587 | 09 | 29.1 | 67 | SN | | 3 | C | 1821 | 80 | .8 | | |
| BIGB | 28 | 2059 | 2102 | 2111 | N15 | E22 | 18585 | 09 | 30.5 | 12 | SB | | 3 | C | 2102 | 130 | 1.4 | | |
| PALE | 28 | 2102 | 2102 | 2107 | N16 | E22 | | 09 | 30.5 | 5 | SF | | 3 | C | | 78 | | | 3922 |
| PEKG | 28 | 2328 | 2331 | 2339D | N02 | E27 | | 10 | 1.0 | 11D | SN | | | C | 2331 | 84 | 1.0 | D | |
| LEAR | 28 | 2332E | 2332 | 2346 | N00 | E28 | | 10 | 1.1 | 14D | SB | | 2 | C | | 48 | | E | 3923 |
| PALE | 28 | 2332 | 2332 | 2338D | N02 | E27 | | 10 | 1.0 | 6D | SN | | 3 | C | | 49 | | | 3923 |
| LEAR | 29 | 0014 | 0019 | 0034 | S12 | W01 | | 09 | 28.9 | 20 | 1F | | 3 | C | | 200 | | F | 3919 |
| PEKG | 29 | 0030E | 0030U | 0030D | S10 | W01 | | 09 | 28.9 | 20D | SF | | | P | 0030 | 139 | 1.5 | E | |

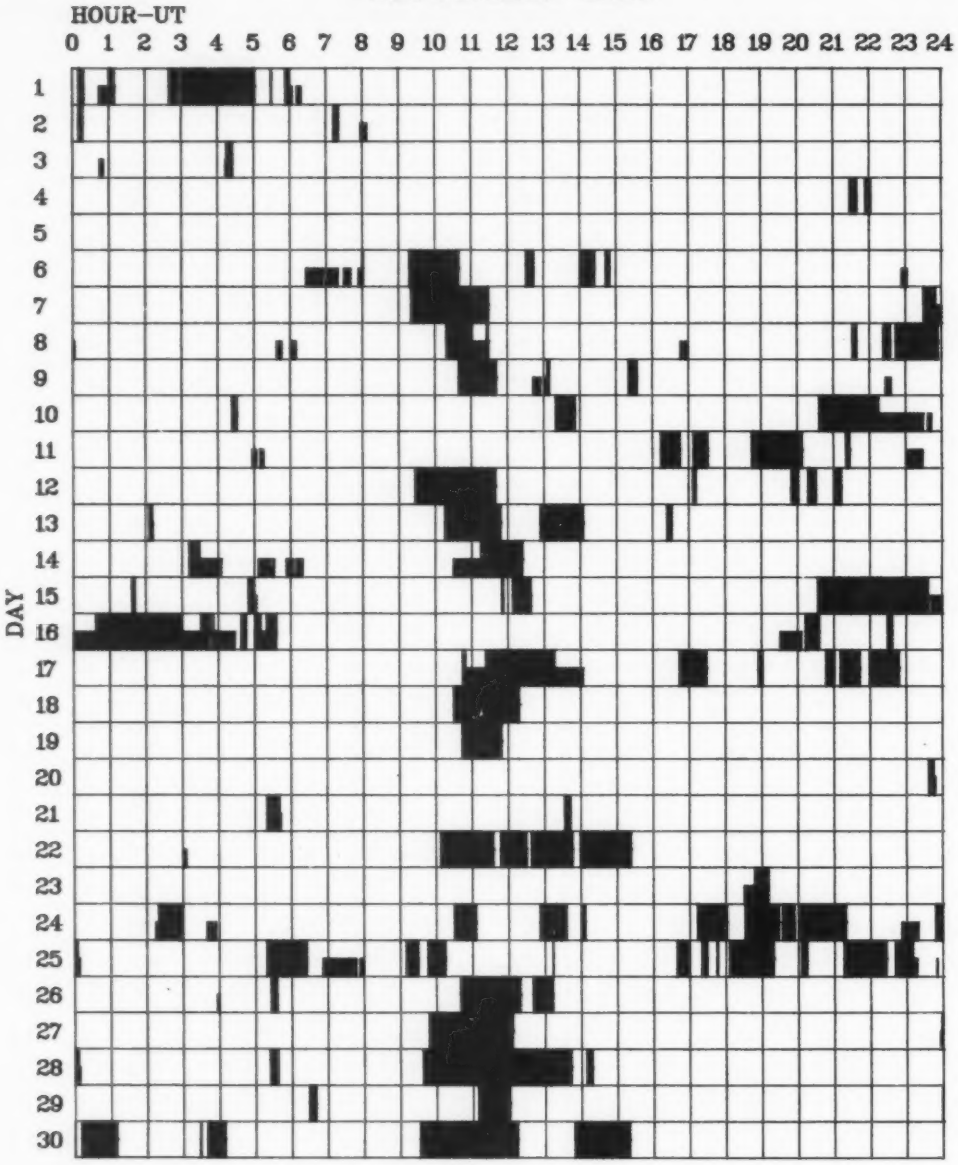
SEPTEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | Big Bear Plage Region | CMP Mo | CMP Day | Dur (Min) | Imp Opt | Imp Xray | Obs See | Obs Type | Time (UT) | Area Measurement Apparent ($10^{-6}$ Disk) | Area Measurement Corr (Sq Deg) | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PALE | 29 | 0102 | 0109 | 0123 | S02 | E31 | | 10 | 1.4 | 21 | SN | | 3 | C | | 178 | | 3923 |
| MANI | 29 | 0104 | 0110 | 0130D | S03 | E30 | | 10 | 1.3 | 26D | 1N | | 1 | V | | 200 | 2.4 | F |
| LEAR | 29 | 0105 | 0111 | 0135 | S04 | E30 | | 10 | 1.3 | 30 | 1N | | 3 | C | | 259 | | F 3923 |
| PALE | 29 | 0248 | 0250 | 0252D | N15 | E17 | | 09 | 30.4 | 4D | SF | | 3 | C | | 41 | | 3922 |
| LEAR | 29 | 0655 | 0655 | 0704 | N14 | E14 | | 09 | 30.3 | 9 | SF | | 3 | C | | 41 | | 3922 |
| LEAR | 29 | 0722 | 0728 | 0752 | N14 | E13 | | 09 | 30.3 | 30 | SF | | 3 | C | | 30 | | K 3922 |
| LEAR | 29 | 0722 | 0741 | 0752 | N14 | E13 | | 09 | 30.3 | 30 | SF | | 3 | C | | 63 | | K 3922 |
| LEAR | 29 | 0754 | 0809 | 0842 | N16 | E16 | | 09 | 30.5 | 48 | SN | | 3 | C | | 74 | | K 3922 |
| LEAR | 29 | 0754 | 0823 | 0842 | N16 | E16 | | 09 | 30.5 | 48 | SN | | 3 | C | | 89 | | F K 3922 |
| ISTA | 29 | 0802 | | 0830 | N16 | E17 | | 09 | 30.6 | 28 | SF | | | | | | | E |
| RAMY | 29 | 1219 | 1233 | 1253 | N14 | E10 | | 09 | 30.3 | 34 | SF | | 3 | C | | 122 | | 3922 |
| RAMY | 29 | 1247 | 1247 | 1257 | S10 | W07 | | 09 | 29.0 | 10 | SN | | 3 | C | | 23 | | 3919 |
| RAMY | 29 | 1307 | 1309 | 1322 | S21 | W31 | | 09 | 27.2 | 15 | SF | | 3 | C | | 51 | | 3916 |
| WEND | 29 | 1332 | 1335 | 1343 | N11 | E37 | | 10 | 2.3 | 11 | SN | | | C | 1335 | 38 | .5 | H |
| RAMY | 29 | 1333 | 1335 | 1343 | N12 | E37 | | 10 | 2.3 | 10 | SF | | 3 | C | | 52 | | 3926 |
| RAMY | 29 | 1518 | 1525 | 1558 | N16 | E11 | | 09 | 30.5 | 40 | SB | | 3 | C | | 186 | | FE 3922 |
| WEND | 29 | 1519 | 1526 | 1532D | N16 | E12 | | 09 | 30.5 | 13D | SB | | | C | 1526 | 78 | .9 | H |
| RAMY | 29 | 1545 | 1545 | 1546D | S10 | W19 | | 09 | 28.2 | 1D | 4F | | 3 | C | | 6289 | | |
| RAMY | 29 | 1645 | 1913 | 2022D | S11 | W10 | | 09 | 28.9 | 217D | SB | | 3 | C | | 106 | | FEK 3919 |
| RAMY | 29 | 1645 | 1925 | 2022D | S11 | W10 | | 09 | 28.9 | 217D | SN | | 3 | C | | 64 | | K 3919 |
| PALE | 29 | 1713E | 1836U | 1858 | S11 | W08 | | 09 | 29.1 | 105D | SN | | 3 | C | | 126 | | 3919 |
| HOLL | 29 | 1800E | 1801U | 1808D | S10 | W10 | | 09 | 29.0 | 8D | SN | | 2 | C | | 52 | | 3919 |
| HOLL | 29 | 1802 | 1803 | 1807 | S20 | E17 | | 10 | 1.0 | 5 | SF | | 2 | C | | 25 | | 3921 |
| BIGB | 29 | 1832E | 1845 | 1940 | S11 | W08 | 18587 | 09 | 29.2 | 68D | 1B | | 3 | P | 1845 | 360 | 3.7 | |
| PALE | 29 | 1909 | 1914 | 1938D | S10 | W12 | | 09 | 28.9 | 29D | SB | | 3 | C | | 84 | | FE 3919 |
| PALE | 29 | 1918 | 1945U | 2006D | N14 | E04 | | 09 | 30.1 | 48D | 1N | | 3 | C | | 247 | | F 3922 |
| BIGB | 29 | 1920 | 1938 | 2000 | N14 | E04 | 18584 | 09 | 30.1 | 40 | 1B | | 3 | C | 1938 | 220 | 2.3 | |
| BIGB | 29 | 1932 | 1934 | 2009 | S05 | E18 | 18587 | 10 | 1.2 | 37 | SN | | 3 | C | 1934 | 100 | 1.1 | |
| BIGB | 29 | 2012 | 2020 | 2050 | N16 | E07 | 18584 | 09 | 30.4 | 38 | SB | | 3 | C | 2020 | 160 | 1.7 | |
| PALE | 29 | 2015 | 2024U | 2029D | S10 | W12 | | 09 | 28.9 | 14D | SN | | 3 | C | | 105 | | 3919 |
| PALE | 29 | 2015 | 2019 | 2034 | N16 | E07 | | 09 | 30.4 | 19 | SB | | 3 | C | | 165 | | F 3922 |
| PALE | 29 | 2235 | 2242U | 2308D | S10 | W22 | | 09 | 28.3 | 33D | SB | | 3 | C | | 187 | | F 3928 |
| BIGB | 29 | 2245E | 2246 | 2323 | S12 | W22 | 18587 | 09 | 28.3 | 38D | 1B | | 3 | C | 2246 | 210 | 2.3 | |
| LEAR | 30 | 0116 | 0120 | 0140 | S10 | W15 | | 09 | 28.9 | 24 | SN | | 3 | C | | 152 | | F 3919 |
| LEAR | 30 | 0132 | 0139 | 0218 | N16 | E06 | | 09 | 30.5 | 46 | 1B | | 3 | C | | 465 | | ZF 3922 |
| LEAR | 30 | 0422 | 0425 | 0434 | N18 | E58 | | 10 | 4.6 | 12 | SF | | 3 | C | | 17 | | F |
| LEAR | 30 | 0534 | 0535 | 0549 | S17 | E08 | | 09 | 30.8 | 15 | SF | | 3 | C | | 55 | | F 3921 |
| LEAR | 30 | 0615 | 0616 | 0632 | N15 | E01 | | 09 | 30.3 | 17 | SN | | 3 | C | | 108 | | 3922 |
| YUNN | 30 | 0620E | 0620U | 0628 | N14 | E02 | | 09 | 30.4 | 8D | SN | | | P | 0620 | 32 | .3 | |
| YUNN | 30 | 0620E | 0626 | 0655 | N12 | W13 | | 09 | 29.3 | 35D | SN | | | P | | 48 | .5 | |
| LEAR | 30 | 0630 | 0632 | 0640 | S11 | W17 | | 09 | 29.0 | 10 | SF | | 3 | C | | 26 | | 3919 |
| LEAR | 30 | 0701 | 0705 | 0714 | S11 | W17 | | 09 | 29.0 | 13 | SF | | 3 | C | | 22 | | 3919 |
| LEAR | 30 | 0713 | 0713 | 0737 | N17 | E01 | | 09 | 30.4 | 24 | SF | | 3 | C | | 23 | | K 3922 |
| LEAR | 30 | 0713 | 0728 | 0737 | N17 | E01 | | 09 | 30.4 | 24 | SF | | 3 | C | | 22 | | K 3922 |
| LEAR | 30 | 0720 | 0724 | 0732 | S10 | W17 | | 09 | 29.0 | 12 | SF | | 3 | C | | 38 | | 3919 |
| LEAR | 30 | 0837 | 0842 | 0903D | N15 | W00 | | 09 | 30.4 | 26D | 1B | | 3 | C | | 239 | | 3922 |
| WEND | 30 | 0838 | 0842 | 0903 | N16 | E00 | | 09 | 30.4 | 25 | SB | | | C | 0842 | 94 | 1.0 | H |
| LEAR | 30 | 0901 | 0903U | 0903D | S11 | W19 | | 09 | 28.9 | 2D | SF | | 3 | C | | 51 | | 3919 |
| WEND | 30 | 0903 | 0908 | 0914 | S10 | W19 | | 09 | 28.9 | 11 | SN | | | C | 0908 | 38 | .4 | H |
| RAMY | 30 | 1214 | 1223 | 1316 | N15 | W03 | | 09 | 30.3 | 62 | SN | | 3 | C | | 178 | | 3922 |
| RAMY | 30 | 1317 | 1343 | 1343D | N17 | W03 | | 09 | 30.3 | 26D | 1N | | 3 | C | | 214 | | 3922 |
| BIGB | 30 | 1630 | 1634 | 1653 | N15 | W07 | 18584 | 09 | 30.2 | 23 | SN | | 3 | C | 1634 | 100 | 1.0 | |
| PALE | 30 | 1801 | 1803 | 1823 | N14 | W07 | | 09 | 30.2 | 22 | SN | | 3 | C | | 93 | | F K 3922 |
| PALE | 30 | 1801 | 1812 | 1823 | N14 | W07 | | 09 | 30.2 | 22 | SN | | 3 | C | | 112 | | K 3922 |
| BIGB | 30 | 1801 | 1803 | 1823 | N14 | W07 | 18584 | 09 | 30.2 | 22 | SN | | 3 | C | 1823 | 90 | .9 | |
| PALE | 30 | 1816 | 1817 | 1821 | S04 | E07 | | 10 | 1.3 | 5 | SF | | 3 | C | | 24 | | 3923 |
| PALE | 30 | 1938 | 1941 | 1942 | N13 | W23 | | 09 | 29.1 | 4 | SF | | 3 | C | | 25 | | 3917 |
| BIGB | 30 | 2003 | 2010 | 2037 | N15 | W08 | 18584 | 09 | 30.2 | 34 | SB | | 3 | C | 2010 | 140 | 1.5 | |
| PALE | 30 | 2004 | 2009 | 2035 | N15 | W08 | | 09 | 30.2 | 31 | SB | | 3 | C | | 129 | | FE 3922 |
| BIGB | 30 | 2114 | 2145 | 2254 | S14 | E50 | 18580 | 10 | 4.7 | 100 | 1N | | 3 | C | 2145 | 180 | 2.9 | |
| PALE | 30 | 2136 | 2144 | 2148 | N14 | W23 | | 09 | 29.2 | 12 | SF | | 3 | C | | 68 | | 3917 |
| LEAR | 30 | 2336E | 2340 | 2359 | N16 | W06 | | 09 | 30.5 | 23D | SN | | 2 | C | | 103 | | 3922 |
| BIGB | 30 | 2336 | 2339 | 0010 | N16 | W06 | 18584 | 09 | 30.5 | 34 | SB | | 3 | C | 2339 | 150 | 1.6 | |

# INTERVALS OF NO FLARE PATROL OBSERVATION

## FOR PRECEDING SOLAR FLARE TABLE

## SEPTEMBER 1982



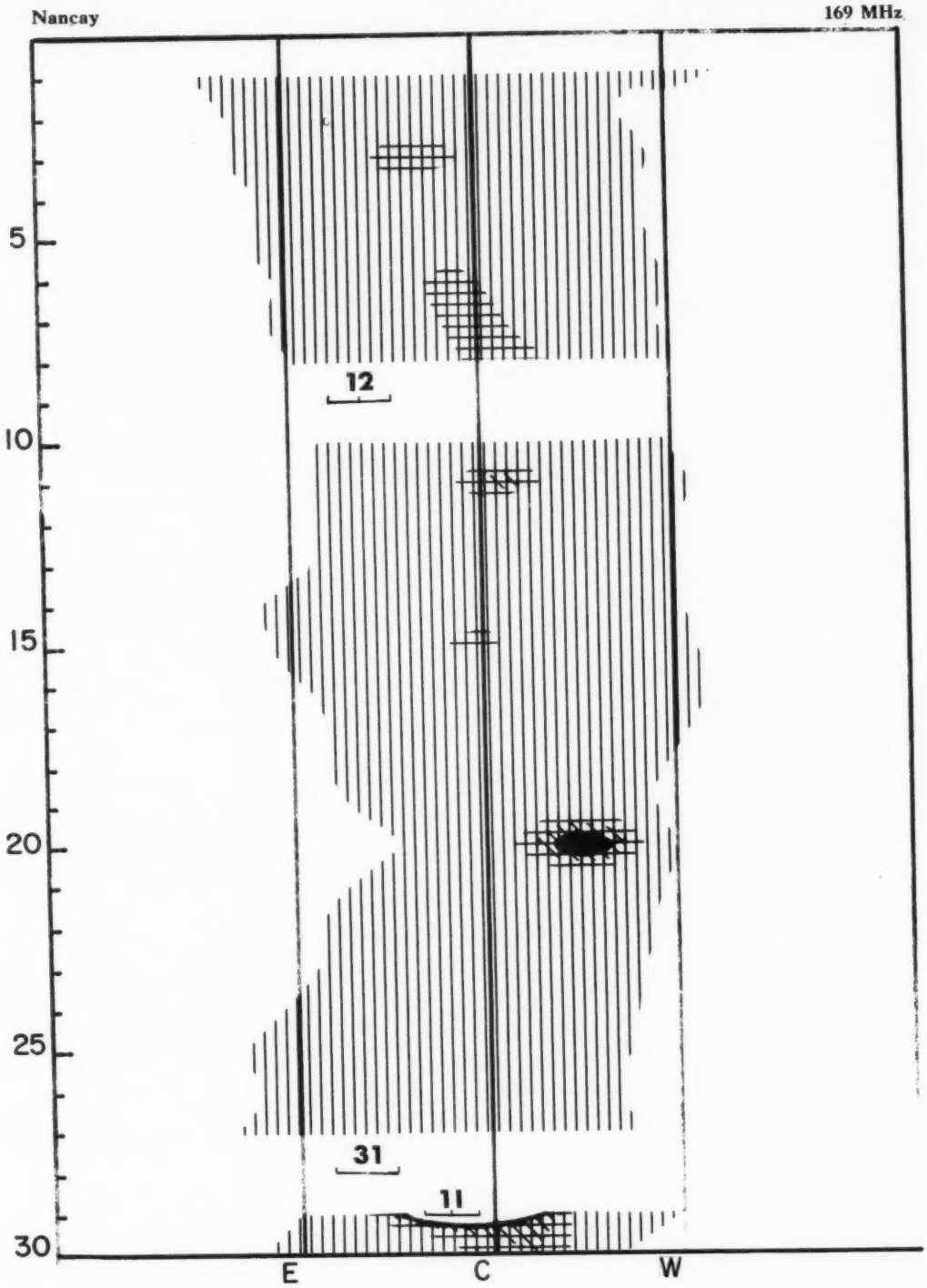

Observatories included in total patrol:

| | | | | |
|---|---|---|---|---|
| Big Bear | Holloman | Kandilli | Monte Mario | Ramey |
| Bucharest | Istanbul | Learmonth | Peking | Wendelstein |
| | | Manila | Purple Mt. | Yunnan |

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

# SOLAR RADIO EMISSION
# INTERFEROMETRIC OBSERVATION

SEPTEMBER 1982

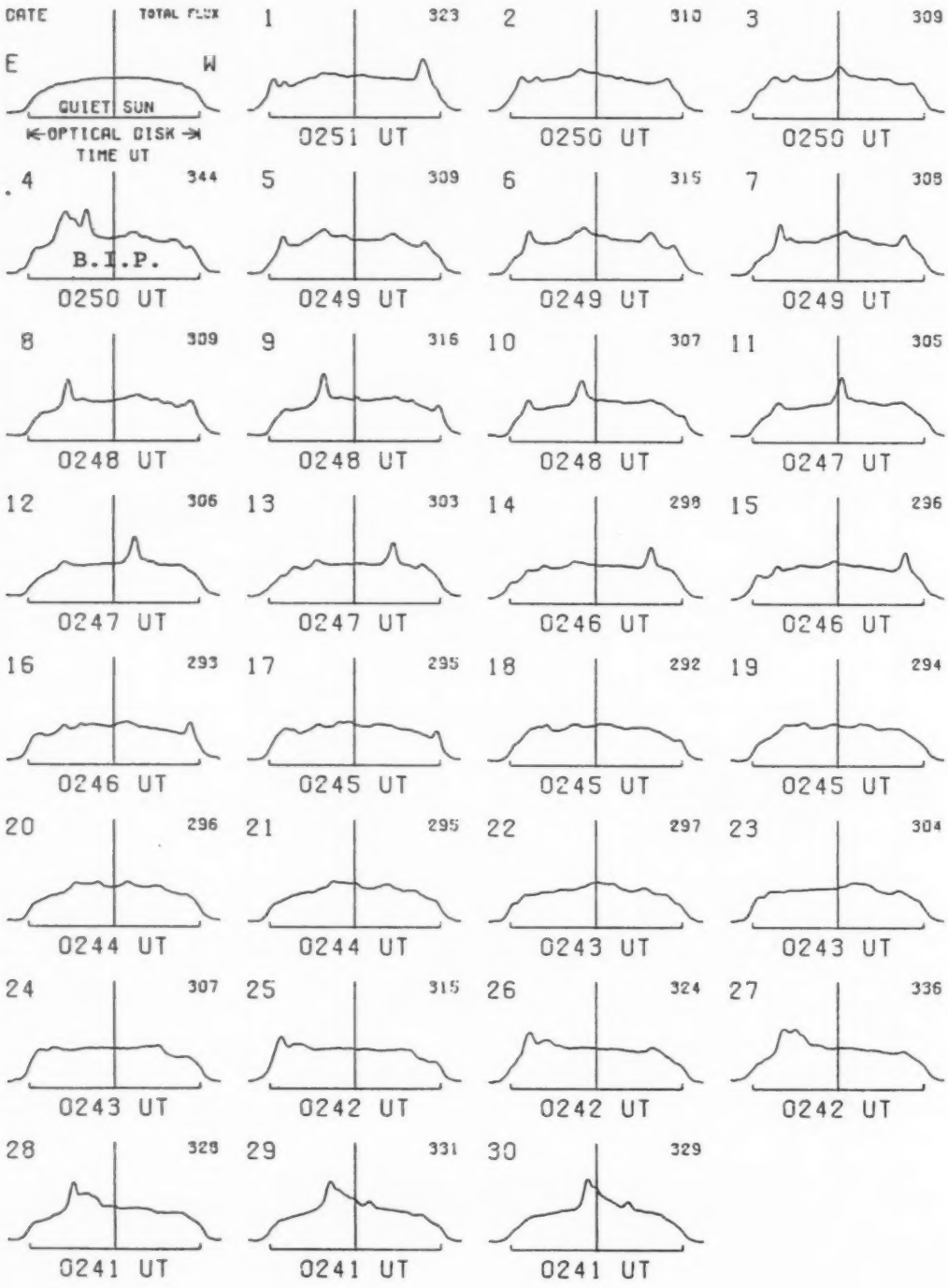


# EAST-WEST SOLAR SCANS

## SEPTEMBER 1982

TOYOKAWA.JAPAN

3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC

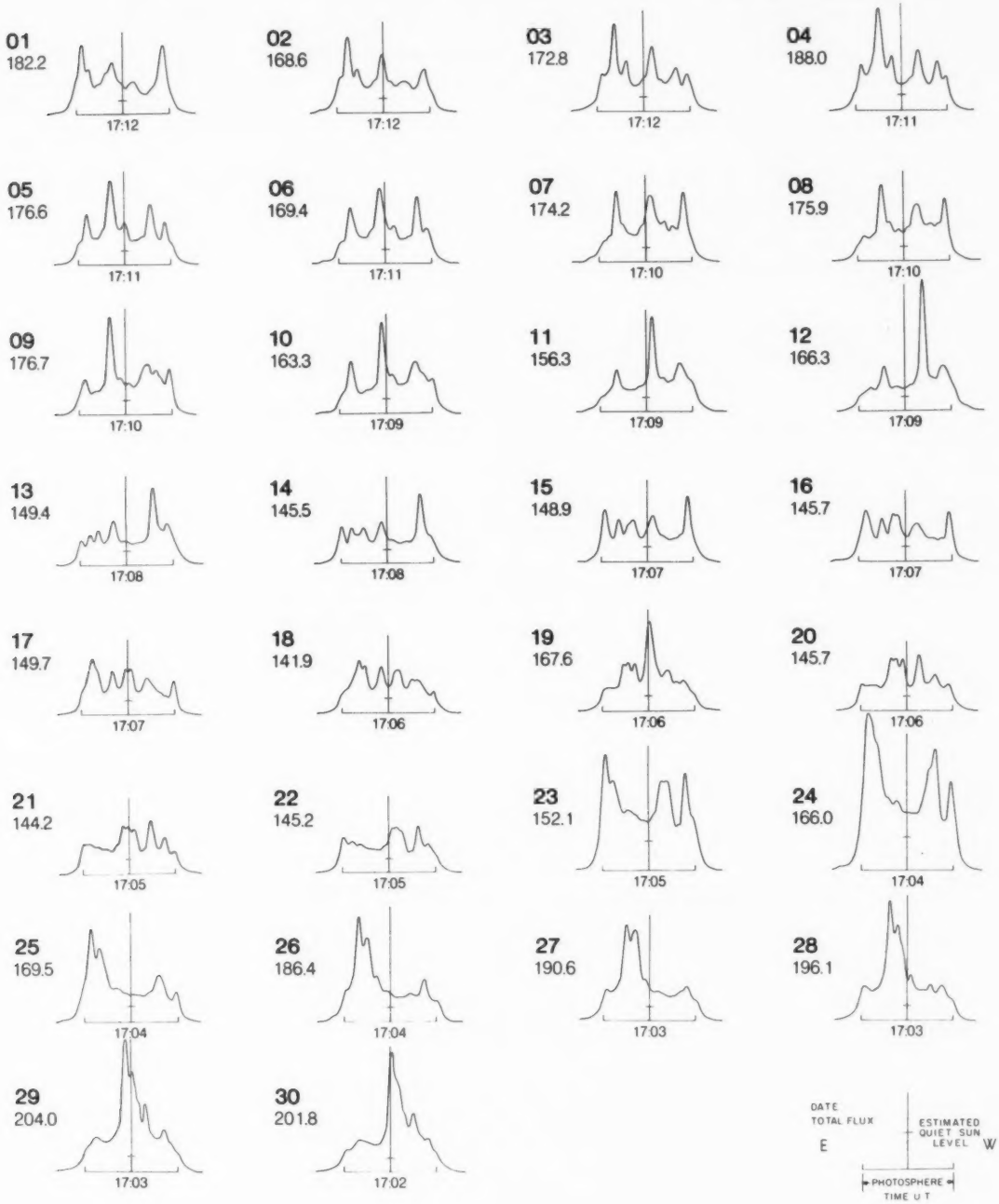


# EAST-WEST SOLAR SCANS

## SEPTEMBER 1982

ALGONQUIN RADIO OBSERVATORY
CANADA

10·7 cm
Fan Beam with 1·5 minutes of arc
E-W Resolution



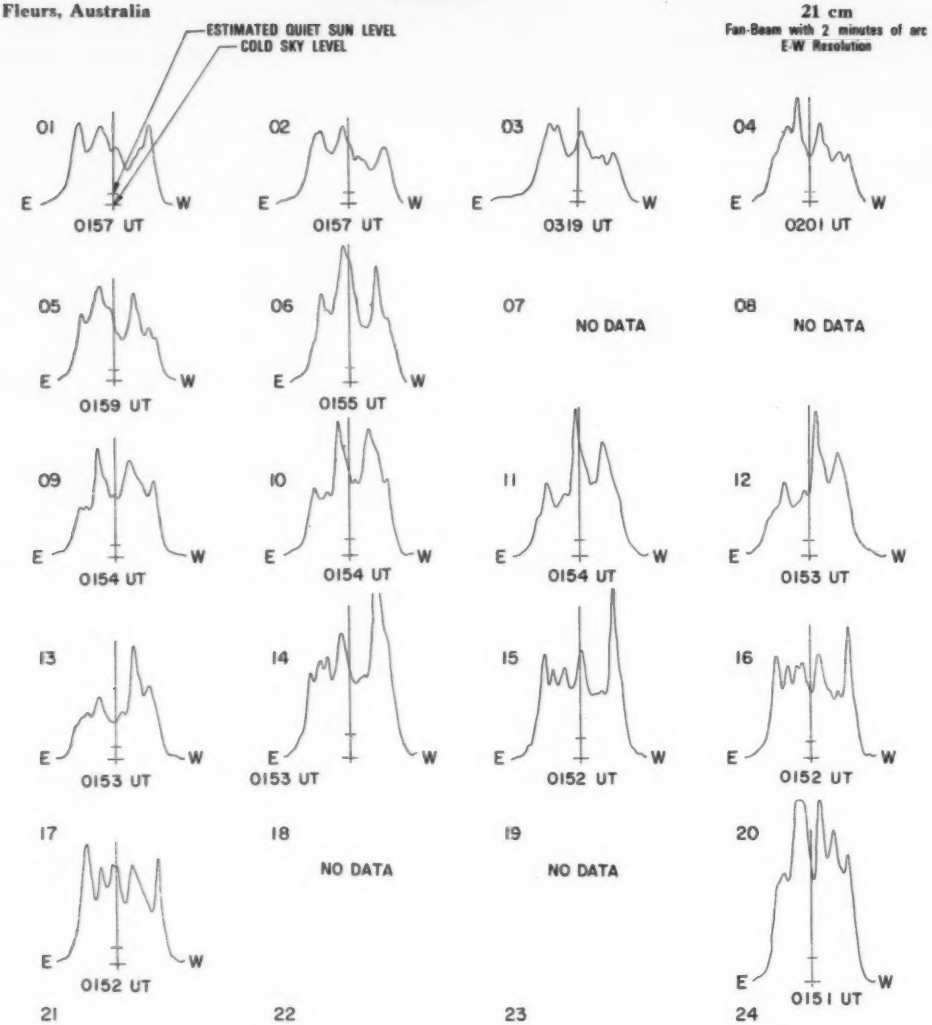
28
Sep 82

# EAST-WEST SOLAR SCANS

SEPTEMBER 1982

Fleurs, Australia

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution




NO DATA SEPTEMBER 21-30, 1982

25 26 27 28

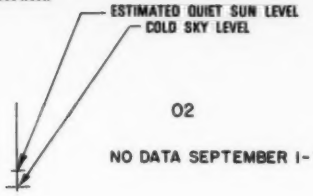
29 30

# EAST-WEST SOLAR SCANS

SEPTEMBER 1982

**Fleurs, Australia**

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution




01

02

NO DATA SEPTEMBER 1-7, 1982

03

04

05

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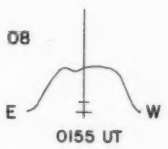
07

08

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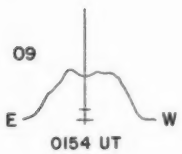


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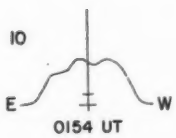


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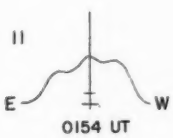


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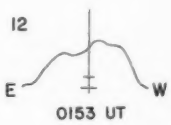


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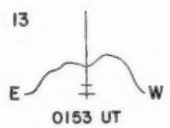


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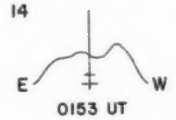


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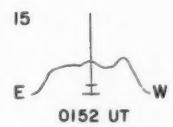


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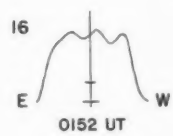


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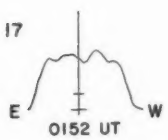


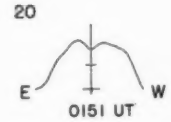

18

NO DATA

19

NO DATA

20




21

22

NO DATA SEPTEMBER 21-30, 1982

23

24

25

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28

29

30

# SOLAR RADIO EMISSION
## SELECTED FIXED FREQUENCY EVENTS

SEPTEMBER 1982

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 2695 | ATHN | 47 | GB | 0737.8 | 0743.8 | 23.3 | 110.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | ATHN | 4 | S/F | 0738.0 | 0743.8 | 22.6 | 49.0 | | | QL=2 ST=2 TYP=3 |
| | 8400 | BERN | 22 | GRF | 0738.2 | 0857.3 | 170.0U | 127.0 | | | ONLY PAPER REC |
| | 2695 | LEAR | 47 | GB | 0738.3 | 0739.6 | 10.0 | 26.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 4 | S/F | 0743.5 | 0743.8 | 4.8 | 49.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 20 | GRF | 0808.3 | 0857.5 | 86.5 | 56.0 | | | QL=6 ST=2 TYP=2 |
| | 8800 | ATHN | 20 | GRF | 0812.0 | 0857.5 | 83.0 | 100.0 | | | QL=2 ST=2 TYP=2 |
| | 2695 | LEAR | 4 | S/F | 0855.8 | 0858.3 | 3.5 | 18.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 | S/F | 0856.1 | 0857.3 | 2.5 | 33.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 20 | GRF | 1345.0 | 1350.0 | 220.0 | 5.2 | 2.6 | | |
| | 2800 | OTTA | 260 | FAL | 1820.0 | 1935.0 | 75.0 | -5.8 | | | |
| | 2695 | PENT | 20 | GRF | 2320.0 | 2335.0 | 80.0 | 5.4 | 2.6 | | |
| 02 | 2800 | OTTA | 21 | GRF | 1255.0 | 1350.0 | 220.0 | 9.2 | 5.0 | | |
| | 2800 | OTTA | 4 | S/F | 1259.0 | 1301.5 | 7.0 | 26.6 | 8.9 | | |
| | 8400 | BERN | 20 | GRF | 1259.2 | 1324.3 | 90.0U | 17.0 | | | ONLY PAPER REC |
| | 2695 | ATHN | 4 | S/F | 1259.5 | 1301.8 | 5.6 | 21.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | SGMR | 8 | S | 1301.1 | 1301.6 | 1.5 | 27.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 3 | S | 1320.0 | 1322.7 | 6.0 | 24.2 | 9.0 | | |
| | 2695 | ATHN | 4 | S/F | 1320.8 | 1322.6 | 5.8 | 16.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 4 | S/F | 1321.0 | 1324.5 | 5.6 | 3.0 | | | QL=2 ST=2 TYP=3 |
| | 2695 | SGMR | 8 | S | 1322.0 | 1322.5 | 1.6 | 27.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 27A | RF | 1640.0 | | 215.0 | 3.0 | 2.8 | | |
| | 2800 | OTTA | 24 | R | 1640.0 | 1655.0 | 15.0 | 3.0 | 1.5 | | |
| | 2800 | OTTA | 24P | R | 1655.0 | | 180.0 | 3.0 | | | |
| | 2800 | OTTA | 21 | GRF | 1833.0 | 1850.0 | 80.0 | 14.0 | 8.3 | | |
| | 2800 | OTTA | 4 | S/F | 1837.0 | 1843.5 | 10.0 | 10.6 | 8.3 | | |
| | 2800 | OTTA | 26 | FAL | 1955.0 | 2015.0 | 20.0 | 03.0 | -1.5 | | |
| 03 | 8800 | LEAR | 8 | S | 0122.0 | 0122.1 | 1.6 | 20.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 4 | S/F | 0606.6 | 0608.0 | 3.2 | 30.0 | | | QL=2 ST=2 TYP=3 |
| | 8400 | BERN | 3 | S | 0608.5 | 0609.1 | 7.0 | 41.0 | | | |
| | 8800 | LEAR | 8 | S | 0609.0 | 0609.1 | | 28.0 | | | QL=6 ST=3 TYP=3 |
| | 8800 | LEAR | 8 | S | 0826.3 | 0826.5 | 1.0 | 13.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 22 | GRF | 1405.0 | 1508.0 | 290.0 | 12.8 | 6.0 | | |
| | 2800 | OTTA | 20 | GRF | 1900.0 | 1925.0 | 55.0 | 2.6 | 1.3 | | |
| | 2800 | OTTA | 1 | S | 2037.9 | 2038.1 | 1.0 | 3.2 | 1.2 | | |
| | 2800 | OTTA | 20 | GRF | 2125.0 | 2155.0 | 65.0 | 2.6 | 1.3 | | |
| | 2695 | PENT | 20 | GRF | 2325.0 | 2345.0 | 55.0 | 6.8 | 3.6 | | |
| 04 | 2695 | PENT | 4 | S/F | 0044.0 | 0047.8 | 15.0 | 54.0 | 13.4 | | |
| | 8800 | LEAR | 47 | GB | 0045.3 | 0047.8 | 10.8 | 50.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 47 | GB | 0046.1 | 0048.3 | 10.0 | 66.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 47 | GB | 0324.0 | 0331.8 | 26.0 | 67.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 47 | GB | 0324.0 | 0335.1 | 26.0 | 93.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 27A | RF | 1310.0 | | 375.0 | 3.0 | 2.7 | | |
| | 2800 | OTTA | 24 | R | 1310.0 | 1325.0 | 15.0 | 3.0 | 1.5 | | |
| | 2800 | OTTA | 24P | R | 1325.0 | | 295.0 | 3.0 | | | |
| | 2800 | OTTA | 20 | GRF | 1635.0 | 1645.0 | 55.0 | 3.6 | 1.8 | | |
| | 2800 | OTTA | 26 | FAL | 1820.0 | 1925.0 | 65.0 | -3.0 | -1.5 | | |
| | 2800 | OTTA | 20 | GRF | 2005.0 | 2030.0 | 65.0 | 3.6 | 2.0 | | |
| 05 | 2800 | OTTA | 20 | GRF | 1340.0 | 1350.0 | 25.0 | 3.0 | 1.5 | | |
| | 2800 | OTTA | 20 | GRF | 1745.0 | 1810.0 | 100.0 | 2.6 | 1.3 | | |
| | 2800 | OTTA | 1 | S | 1930.5 | 1931.8 | 1.5 | 7.2 | 2.6 | | |
| | 2800 | OTTA | 20 | GRF | 2000.0 | 2110.0 | 125.0 | 3.0 | | | |
| 06 | 2695 | PENT | | | 0145.0 | 0152.0 | 7.0D | 107.0 | | | |
| | 2695 | PALE | 47 | GB | 0149.3 | 0152.8 | 6.0 | 300.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | PALE | 49 | GB | 0150.6 | 0152.8 | 5.7 | 540.0 | | | QL=6 ST=2 TYP=6 |
| | 2800 | OTTA | 21 | GRF | 1812.0 | 1820.0 | 25.0 | 3.2 | 1.6 | | |
| | 2800 | OTTA | 1 | S | 1812.5 | 1813.5 | 3.0 | 4.2 | 2.0 | | |
| 07 | 2800 | OTTA | 20 | GRF | 1220.0 | 1240.0 | 50.0 | 3.4 | 1.7 | | |
| | 2800 | OTTA | 1 | S | 1709.8 | 1709.9 | 1.0 | 2.2 | 1.1 | | |
| | 2800 | OTTA | 23 | GRF | 1805.0 | 1828.0 | 155.0 | 9.4 | 4.6 | | |
| | 2800 | OTTA | 4 | S/F | 1809.0 | 1810.9 | 3.5 | 13.2 | 3.4 | | |
| | 2800 | OTTA | 4 | S/F | 1849.0 | 1850.3 | 4.0 | 73.0 | 13.2 | | |
| | 2695 | SGMR | 8 | S | 1849.8 | 1850.5 | 2.0 | 48.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | PALE | 8 | S | 1850.8 | 1851.1 | 1.2 | 43.0 | | | QL=6 ST=2 TYP=3 |

# SOLAR RADIO EMISSION
## SELECTED FIXED FREQUENCY EVENTS

SEPTEMBER 1982

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 08 | 2695 | LEAR | 4 | S/F | 0642.8 | 0643.6 | 4.3 | 20.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 | S/F | 0642.8 | 0643.6 | 2.8 | 9.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 8 | S | 0642.8 | 0643.8 | 2.0 | 9.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 8 | S | 0703.3 | 0704.0 | 1.0 | 20.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 260 | FAL | 1420.0 | 1450.0 | 30.0 | -2.6 | -1.6 | | |
| | 2800 | OTTA | 240 | R | 1945.0 | 2020.0 | 35.0 | 3.2 | 1.6 | | |
| | 2800 | OTTA | 2 | S/F | 2135.5 | 2135.9 | 1.5 | 4.2 | | | |
| 09 | 2695 | PENT | 21 | GRF | 0005.0 | 0030.0 | 90.0 | 17.0 | 8.5 | | |
| | 2695 | LEAR | 4 | S/F | 0014.8 | 0015.1 | 10.8 | 17.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | PENT | 1 | S | 0015.0 | 0015.2 | 1.2 | 4.8 | 2.2 | | |
| | 8800 | LEAR | 4 | S/F | 0015.6 | 0016.5 | 10.0 | 10.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | PALE | 4 | S/F | 0022.1 | 0023.8 | 5.5 | 18.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | PALE | 8 | S | 0022.5 | 0023.5 | 1.1 | 27.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | PENT | 4 | S/F | 0023.2 | 0023.5 | 1.0 | 19.2 | | | |
| | 8800 | LEAR | 20 | GRF | 0025.6 | 0029.8 | 14.5 | 30.0 | | | QL=6 ST=2 TYP=2 |
| | 2695 | LEAR | 47 | GB | 0025.6 | 0034.8 | 14.5 | 50.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | PALE | 20 | GRF | 0027.6 | 0029.3 | 7.4 | 28.0 | | | QL=6 ST=2 TYP=2 |
| | 2695 | PALE | 8 | S | 0032.0 | 0032.6 | 1.1 | 13.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | PENT | 4 | S/F | 0034.2 | 0034.9 | 1.5 | 30.0 | 15.0 | | |
| | 8800 | PALE | 20 | GRF | 0035.0 | 0035.5 | 11.0 | 36.0 | | | QL=6 ST=2 TYP=2 |
| | 2695 | LEAR | 47 | GB | 0040.1 | 0040.1 | 3.7 | 50.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 20 | GRF | 0040.1 | 0041.8 | 4.2 | 34.0 | | | QL=6 ST=2 TYP=2 |
| | 8800 | PALE | 20 | GRF | 0046.0 | 0047.0 | 3.0 | 31.0 | | | QL=6 ST=2 TYP=2 |
| | 2695 | PENT | 4 | S/F | 0111.5 | 0115.0 | 6.0 | 19.2 | 6.4 | | |
| | 2695 | LEAR | 8 | S | 0111.8 | 0113.3 | 1.5D | 16.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 47 | GB | 0112.6 | 0114.6 | 5.7 | 100.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | PALE | 47 | GB | 0112.8 | 0114.8 | 5.5 | 110.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | PALE | 8 | S | 0113.1 | 0114.6 | 1.5D | 18.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 | S/F | 0259.8 | 0301.1 | 4.3 | 24.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 4 | S/F | 0709.8 | 0713.5 | 11.0 | 31.0 | | | QL=6 ST=2 TYP=3 |
| | 8400 | BERN | 4 | S/F | 0709.8 | 0713.6 | 18.0 | 215.0 | | | |
| | 2695 | LEAR | 4 | S/F | 0710.1 | 0713.3 | 5.0 | 37.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 47 | GB | 0710.1 | 0713.8 | 10.2 | 110.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 47 | GB | 0710.3 | 0713.6 | 9.3 | 200.0 | | | QL=6 ST=2 TYP=5 |
| | 8400 | BERN | 41 | F | 0909.4 | 0931.2 | 54.0 | 80.0 | | | |
| | 2695 | ATHN | 4 | S/F | 0910.0 | 0911.6 | 3.0 | 10.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 4 | S/F | 0910.0 | 0911.8 | 3.5 | 10.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 8 | S | 0910.6 | 0911.3 | 1.9 | 17.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 47 | GB | 0928.8 | 0931.3 | 7.8 | 70.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | ATHN | 47 | GB | 0929.0 | 0931.5 | 6.5 | 56.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | ATHN | 4 | S/F | 0929.0 | 0931.5 | 6.5 | 38.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 8 | S | 0956.5 | 0957.0 | 1.1 | 31.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | SGMR | 4 | S/F | 1110.0 | 1112.1 | 4.8 | 29.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | SGMR | 8 | S | 1111.1 | 1111.6 | 1.2 | 23.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | SGMR | 20 | GRF | 1114.8 | 1115.1 | 11.5 | 22.0 | | | QL=6 ST=2 TYP=2 |
| | 8800 | SGMR | 4 | S/F | 1114.8 | 1116.8 | 11.5 | 23.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | SGMR | 20 | GRF | 1126.3 | 1126.3 | 10.0 | 24.0 | | | QL=6 ST=2 TYP=2 |
| | 2695 | SGMR | 4 | S/F | 1126.3 | 1126.3 | 3.5 | 38.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | SGMR | 20 | GRF | 1136.3 | 1136.5 | 12.3 | 21.0 | | | QL=6 ST=2 TYP=2 |
| | 8800 | SGMR | 20 | GRF | 1136.3 | 1136.6 | 9.5 | 28.0 | | | QL=6 ST=2 TYP=2 |
| | 2695 | SGMR | 20 | GRF | 1148.6 | 1148.8 | 9.4 | 22.0 | | | QL=6 ST=2 TYP=2 |
| | 2695 | SGMR | 20 | GRF | 1158.0 | 1202.1 | 8.8 | 27.0 | | | QL=6 ST=2 TYP=2 |
| | 2800 | OTTA | 1 | S | 1351.0 | 1354.0 | 6.0 | 2.8 | 1.4 | | |
| | 2695 | SGMR | 4 | S/F | 1546.8 | 1548.8 | 3.0 | 20.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 260 | FAL | 1600.0 | 1655.0 | 55.0 | -6.2 | -3.1 | | |
| | 2800 | OTTA | 260 | FAL | 1955.0 | 2030.0 | 35.0 | -7.4 | -3.7 | | |
| 10 | 8400 | BERN | 45 | C | 0826.5 | 0827.6 | 5.0 | 98.0 | | | |
| | 2695 | LEAR | 4 | S/F | 0826.6 | 0826.8 | 2.2 | 26.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 47 | GB | 0826.6 | 0827.6 | 3.2 | 76.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | ATHN | 4 | S/F | 0827.0 | 0827.3 | 3.3 | 49.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 47 | GB | 0827.0 | 0827.8 | 3.1 | 57.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 1 | S | 2144.0 | 2144.2 | 1.0 | 4.8 | 2.0 | | |
| 11 | 2695 | PENT | 3 | S | 0023.8 | 0024.3 | 3.0 | 12.0 | 4.0 | | |
| | 2695 | LEAR | 8 | S | 0024.1 | 0024.1 | 1.0 | 13.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 | S | 0024.1 | 0024.1 | 1.0 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 20 | GRF | 1345.0 | 1355.0 | 45.0 | 2.2 | | | |
| | 2800 | OTTA | 1 | S | 1529.0 | 1529.8 | 4.0 | 9.4 | 3.0 | | |

# SOLAR RADIO EMISSION
## SELECTED FIXED FREQUENCY EVENTS

SEPTEMBER 1982

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 8800 | ATHN | 4 | S/F | 1529.3 | 1530.1 | 2.3 | 7.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 4 | S/F | 1529.3 | 1530.1 | 3.2 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 20 | GRF | 2055.0 | 2110.0 | 35.0 | 3.0 | 1.5 | | |
| 12 | 2800 | OTTA | 27A | RF | 1205.0 | | 155.0 | 4.8 | 2.4 | | |
| | 2800 | OTTA | 24 | R | 1205.0 | 1215.0 | 10.0 | 4.8 | 3.6 | | |
| | 2800 | OTTA | 24P | R | 1215.0 | | 75.0 | 4.8 | | | |
| | 2800 | OTTA | 1 | S | 1239.0 | 1240.5 | 4.0 | 4.0 | 2.2 | | |
| | 2800 | OTTA | 22 | GRF | 1300.0 | 1310.0 | 25.0 | 6.4 | 4.0 | | |
| | 2800 | OTTA | 26 | FAL | 1330.0 | 1440.0 | 70.0 | -4.8 | -2.4 | | |
| | 2800 | OTTA | 21 | GRF | 1535.0 | 1635.0 | 260.0 | 18.2 | 9.1 | | |
| | 8800 | SGMR | 4 | S/F | 1548.8 | 1549.8 | 3.8 | 30.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 46F | C | 1549.0 | 1550.0 | 10.0 | 67.0 | 16.8 | | |
| | 2695 | SGMR | 47 | GB | 1549.1 | 1549.8 | 3.0 | 82.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | SGMR | 4 | S/F | 1604.3 | 1605.1 | 16.7 | 22.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 1 | S | 1605.0 | 1606.0 | 2.0 | 2.8 | 1.4 | | |
| 13 | 2695 | LEAR | 4 | S/F | 0458.6 | 0459.1 | 5.5 | 13.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 | S/F | 0459.0 | 0459.8 | 5.1 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | PALE | 49 | GB | 2026.5 | 2028.1 | 14.1 | 400.0 | | | QL=1 ST=2 TYP=6 |
| 14 | 2695 | PENT | 46F | C | 0111.3 | 0113.3 | 4.0 | 53.0 | 12.0 | | |
| | 2695 | LEAR | 4 | S/F | 0111.5 | 0113.3 | 3.8 | 23.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | PALE | 47 | GB | 0112.3 | 0113.0 | 3.0 | 78.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 47 | GB | 0112.5 | 0113.1 | 3.0 | 59.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | PALE | 8 | S | 0112.8 | 0113.6 | 1.7 | 39.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 1 | S | 1526.5 | 1527.2 | 2.0 | 2.2 | 0.9 | | |
| | 2800 | OTTA | 1 | S | 2015.0 | 2017.0 | 5.0 | 7.0 | 2.4 | | |
| | 2695 | PENT | 3 | S | 2353.0 | 2353.3 | 1.0 | 15.0 | 5.0 | | |
| | 2695 | LEAR | 8 | S | 2353.1 | 2353.3 | 1.2 | 19.0 | | | QL=6 ST=2 TYP=3 |
| 15 | 2695 | LEAR | 4 | S/F | 0216.6 | 0219.6 | 9.0 | 28.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 | S/F | 0216.6 | 0219.8 | 9.7 | 23.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 4 | S/F | 0558.1 | 0601.8 | 6.9 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 | S/F | 0601.5 | 0601.6 | 5.5 | 13.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 8 | S | 1338.8 | 1339.0 | .5 | 2.2 | 1.1 | | |
| | 2800 | OTTA | 20 | GRF | 1645.0 | 1715.0 | 80.0 | 3.0 | 1.5 | | |
| | 2800 | OTTA | 28 | PRE | 1816.0 | 1819.0 | 6.0 | 7.2 | 5.3 | | |
| | 2800 | OTTA | 4 | S/F | 1822.0 | 1823.8 | 6.0 | 165.0 | 63.0 | | |
| | 2695 | SGMR | 47 | GB | 1822.3 | 1823.8 | | 189.0 | | | QL=6 ST=1 TYP=5 |
| | 2695 | PALE | 47 | GB | 1822.3 | 1824.1 | 5.0 | 160.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | SGMR | 47 | GB | 1822.6 | 1823.8 | | 210.0 | | | QL=6 ST=1 TYP=5 |
| | 8800 | PALE | 47 | GB | 1822.6 | 1823.8 | 5.2 | 210.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 29 | PBI | 1828.0 | 1828.0 | 45.0 | 8.6 | 2.8 | | |
| | 2800 | OTTA | 21 | GRF | 1950.0 | 2023.0 | 40.0 | 2.2 | 1.1 | | |
| | 2800 | OTTA | 2 | S/F | 2019.0 | 2019.8 | 3.0 | 7.8 | 2.6 | | |
| | 2695 | PENT | 21 | GRF | 2140.0 | 2300.0 | 140.0 | 4.8 | 2.4 | | |
| | 2695 | PENT | 1 | S | 2249.0 | 2250.0 | 6.0 | 3.4 | 1.7 | | |
| 16 | 2800 | OTTA | 20 | GRF | 2025.0 | 2100.0 | 130.0 | 3.6 | 2.0 | | |
| 17 | 2800 | OTTA | 23 | GRF | 1320.0 | 1400.0 | 450.0 | 9.0 | 4.4 | | |
| | 2800 | OTTA | 2 | S/F | 1324.0 | 1326.0 | 7.0 | 8.6 | 2.8 | | |
| | 2800 | OTTA | 3 | S | 1353.5 | 1355.8 | 4.5 | 13.0 | 5.8 | | |
| 18 | 8800 | LEAR | 8 | S | 0302.8 | 0303.0 | 1.0 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 | S | 0655.6 | 0656.0 | .7 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 4 | S/F | 1638.8 | 1639.7 | 2.2 | 23.0 | 9.0 | | |
| | 2800 | OTTA | 29 | PBI | 1641.0 | 1641.0 | 15.0 | 4.0 | 1.8 | | |
| | 2800 | OTTA | 1 | S | 1904.5 | 1905.0 | 1.0 | 2.8 | 1.4 | | |
| 19 | 2800 | OTTA | 21 | GRF | 1357.0 | 1610.0 | 460.0 | 37.0 | 18.5 | | |
| | 2695 | ATHN | 47 | GB | 1504.3 | 1512.5 | 22.0 | 130.0 | | | QL=5 ST=2 TYP=5 |
| | 8800 | SGMR | 8 | S | 1506.3 | 1506.8 | 1.2 | 19.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 40 | F | 1511.0 | 1512.7 | 13.0 | 144.0 | | | |
| | 2695 | SGMR | 47 | GB | 1512.1 | 1512.5 | 11.0 | 139.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | SGMR | 8 | S | 1520.5 | 1521.8 | 1.30 | 18.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | SGMR | 47 | GB | 1523.1 | 1523.3 | 1.7 | 51.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | SGMR | 8 | S | 1524.8 | 1525.1 | 1.2 | 19.0 | | | QL=6 ST=2 TYP=3 |
| 21 | 2695 | PENT | 3 | S | 0001.5 | 0001.9 | 1.0 | 12.0 | 3.0 | | |

# SOLAR RADIO EMISSION
## SELECTED FIXED FREQUENCY EVENTS

SEPTEMBER 1982

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 2800 | OTTA | 20 | GRF | 1535.0 | 1545.0 | 40.0 | 2.6 | 1.3 | | |
| | 2695 | PENT | 21 | GRF | 2205.0 | 2310.0 | 135.0 | 2.6 | 1.3 | | |
| 22 | 2695 | LEAR | 8 | S | 0001.6 | 0001.8 | .5 | 10.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 4 | S/F | 0923.0 | 0923.5 | 3.0 | 41.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 | S | 0923.1 | 0923.3 | 1.2 | 24.0 | | | QL=5 ST=2 TYP=3 |
| | 2800 | OTTA | 20 | GRF | 1350.0 | 1500.0 | 140.0 | 5.6 | 3.0 | | |
| | 2800 | OTTA | 3 | S | 1821.0 | 1821.9 | 2.0 | 22.0 | 7.5 | | |
| | 8800 | SGMR | 47 | GB | 1821.6 | 1821.8 | 1.2 | 68.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | PALE | 47 | GB | 1821.6 | 1821.8 | 1.2 | 87.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | PALE | 8 | S | 1821.8 | 1822.0 | 1.0 | 22.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 40 | F | 1951.8 | 1956.0 | 6.0 | 2.8 | | | |
| | 2695 | PALE | 47 | GB | 2057.6 | 2058.1 | 1.5 | 100.0 | | | QL=6 ST=2 TYP=5 |
| 23 | 2800 | OTTA | 20 | GRF | 1435.0 | 1600.0 | 165.0 | 2.8 | 1.6 | | |
| 24 | 2800 | OTTA | 240 | R | 1230.0 | 1300.0 | 30.0 | 4.6 | 2.3 | | |
| | 2800 | OTTA | 22 | GRF | 1550.0 | 1812.0 | 180.0 | 3.6 | 2.2 | | |
| | 2695 | PALE | 47 | GB | 1920.3 | 1920.6 | 1.8 | 62.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 20 | GRF | 1950.0 | 2025.0 | 110.0 | 4.6 | 2.3 | | |
| 25 | 2800 | OTTA | 240 | R | 1400.0 | 1710.0 | 190.0 | 4.0 | 2.0 | | |
| 26 | 8800 | LEAR | 8 | S | 0000.6 | 0001.0 | 1.0 | 8.0 | | | QL=5 ST=2 TYP=3 |
| | 2800 | OTTA | 27A | RF | 1240.0 | | 275.0 | 3.4 | 3.1 | | |
| | 2800 | OTTA | 24 | R | 1240.0 | 1310.0 | 30.0 | 3.4 | 1.7 | | |
| | 2800 | OTTA | 3 | S | 1305.0 | 1305.9 | 2.0 | 35.0 | 9.0 | | |
| | 2695 | ATHN | 8 | S | 1305.5 | 1305.8 | 1.3 | 36.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | SGMR | 8 | S | 1305.6 | 1305.8 | 1.2 | 46.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 24P | R | 1310.0 | | 220.0 | 3.4 | | | |
| | 2800 | OTTA | 26 | FAL | 1650.0 | 1715.0 | 25.0 | -3.4 | -1.7 | | |
| | 2800 | OTTA | 20 | GRF | 1755.0 | 1846.0 | 90.0 | 2.6 | 1.3 | | |
| | 2800 | OTTA | 20 | GRF | 1940.0 | 2140.0 | 160.0D | 23.4 | | | |
| | 2695 | LEAR | 4 | S/F | 2321.8 | 2322.3 | 5.3 | 29.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 | S/F | 2321.8 | 2324.3 | 7.7 | 10.0 | | | QL=6 ST=2 TYP=3 |
| 27 | 8800 | LEAR | 4 | S/F | 0406.6 | 0408.3 | 4.0 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 8 | S | 0407.1 | 0408.0 | 1.0 | 5.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 1 | S | 1530.0 | 1531.5 | 10.0 | 3.0 | 1.5 | | |
| | 2800 | OTTA | 40 | F | 1614.0 | 1618.0 | 6.0 | 11.2 | | | |
| | 8800 | SGMR | 8 | S | 1617.8 | 1618.1 | 2.0 | 20.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | SGMR | 8 | S | 1618.0 | 1618.1 | 1.3 | 23.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 20 | GRF | 1945.0 | 1957.0 | 40.0 | 3.0 | 1.5 | | |
| 28 | 2695 | PALE | 8 | S | 0308.8 | 0309.0 | 1.2 | 19.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 8 | S | 0442.1 | 0442.1 | .2 | 22.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 20 | GRF | 1235.0 | 1255.0 | 170.0 | 7.4 | 3.8 | | |
| | 2800 | OTTA | 240 | R | 1805.0 | 1830.0 | 25.0 | 2.0 | 1.0 | | |
| | 8800 | PALE | 47 | GB | 2330.8 | 2331.1 | 2.0 | 119.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 47 | GB | 2330.8 | 2331.1 | 2.2 | 110.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | PENT | 4 | S/F | 2330.8 | 2331.2 | 2.0 | 112.0 | 38.0 | | |
| | 2695 | PALE | 47 | GB | 2331.0 | 2331.3 | 1.6 | 98.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 47 | GB | 2331.0 | 2331.3 | 2.0 | 110.0 | | | QL=6 ST=2 TYP=5 |
| 29 | 8800 | LEAR | 47 | GB | 0219.6 | 0220.3 | 2.2 | 50.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | PALE | 47 | GB | 0220.3 | 0220.3 | 1.5 | 52.0 | | | QL=6 ST=2 TYP=5 |
| | 8400 | BERN | 45 | C | 0805.7 | 0810.3 | 20.0 | 31.0 | | | |
| | 2695 | LEAR | 4 | S/F | 0807.5 | 0810.1 | 17.1 | 27.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 | S/F | 0808.5 | 0810.5 | 16.1 | 29.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 4 | S/F | 0809.6 | 0810.8 | 4.4 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 21 | GRF | 1330.0 | 1345.0 | 35.0 | 3.8 | 1.9 | | |
| | 2800 | OTTA | 1 | S | 1342.0 | 1342.3 | 1.0 | 4.0 | 2.0 | | |
| | 2800 | OTTA | 28 | PRE | 1518.5 | 1521.0 | 3.5 | 7.8 | | | |
| | 2800 | OTTA | 45 | C | 1522.0 | 1527.8 | 11.0 | 125.0 | 51.0 | | |
| | 8400 | BERN | 45 | C | 1522.4 | 1527.8 | 17.0 | 133.0 | | | |
| | 2695 | ATHN | 4 | S/F | 1523.1 | 1524.3 | 16.0 | 49.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 47 | GB | 1523.5 | 1524.3 | 10.6 | 79.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 30 | PBI | 1533.0 | 1533.0 | 40.0 | 11.8 | 5.9 | | |
| | 2800 | OTTA | 40 | F | 1539.0 | 1547.0 | 11.0 | 7.0 | | | |
| | 2800 | OTTA | 21 | GRF | 1745.0 | 1801.0 | 70.0 | 4.0 | 2.0 | | |

# SOLAR RADIO EMISSION
## SELECTED FIXED FREQUENCY EVENTS

SEPTEMBER 1982

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 29 | 2800 | OTTA | 46F C | 1842.0 | 1842.4 | 3.0 | 9.8 | 4.6 | | |
| | 2800 | OTTA | 4 S/F | 1912.2 | 1912.6 | 3.0 | 16.8 | 5.6 | | |
| | 2800 | OTTA | 21 GRF | 1925.0 | 1935.0 | 30.0 | 3.8 | 2.0 | | |
| | 2800 | OTTA | 1 S | 1927.3 | 1927.9 | 1.5 | 5.0 | 2.0 | | |
| | 2800 | OTTA | 27A RF | 2015.0 | | 210.0 | 3.8 | 3.2 | | |
| | 2800 | OTTA | 24 R | 2015.0 | 2025.0 | 10.0 | 3.8 | 1.9 | | |
| | 2800 | OTTA | 45 C | 2015.2 | 2018.5 | 5.5 | 5.2 | 2.4 | | |
| | 2695 | PALE | 47 GB | 2020.1 | 2022.0 | 2.2 | 110.0 | | | QL=1 ST=2 TYP=5 |
| | 2800 | OTTA | 24P R | 2035.0 | | 155.0 | 3.8 | | | |
| | 2695 | PENT | 26 FAL | 2300.0 | 2335.0 | 35.0 | -3.8 | -1.9 | | |
| 30 | 8800 | LEAR | 47 GB | 0134.5 | 0135.8 | 31.3 | 470.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 47 GB | 0134.8 | 0137.8 | 43.2 | 139.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | PALE | 8 S | 0201.3E | 0201.5 | .7D | 16.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 S/F | 0615.1 | 0617.0 | 5.0 | 29.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0837.1 | 0837.1 | 1.0 | 27.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 8 S | 0838.3 | 0839.0 | 1.2 | 3.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 8 S | 1036.6 | 1037.1 | 1.4 | 7.0 | | | QL=6 ST=2 TYP=3 |
| | 8400 | BERN | 3 S | 1203.8 | 1205.0 | 8.0 | 32.0U | | | |
| | 8800 | SGMR | 8 S | 1204.6 | 1205.0 | 1.2 | 21.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 4 S/F | 1204.6 | 1205.5 | 6.2 | 36.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 4 S/F | 1204.6 | 1205.6 | 6.2 | 17.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 21 GRF | 1340.0 | 1400.0 | 60.0 | 7.4 | 3.7 | | |
| | 2800 | OTTA | 4 S/F | 1350.0 | 1353.0 | 8.0 | 12.4 | 5.8 | | |
| | 8800 | ATHN | 4 S/F | 1352.1 | 1353.3 | 6.2 | 29.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 20 GRF | 2110.0 | 2215.0 | 180.0D | 16.4 | | | |
| | 2695 | LEAR | 4 S/F | 2335.8 | 2338.6 | 6.3 | 8.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | PALE | 8 S | 2337.5 | 2338.5 | 1.6 | 34.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 S/F | 2337.5 | 2338.5 | 6.8 | 34.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | PALE | 8 S | 2337.6 | 2337.6 | .4 | 13.0 | | | QL=6 ST=2 TYP=3 |

Observatories:

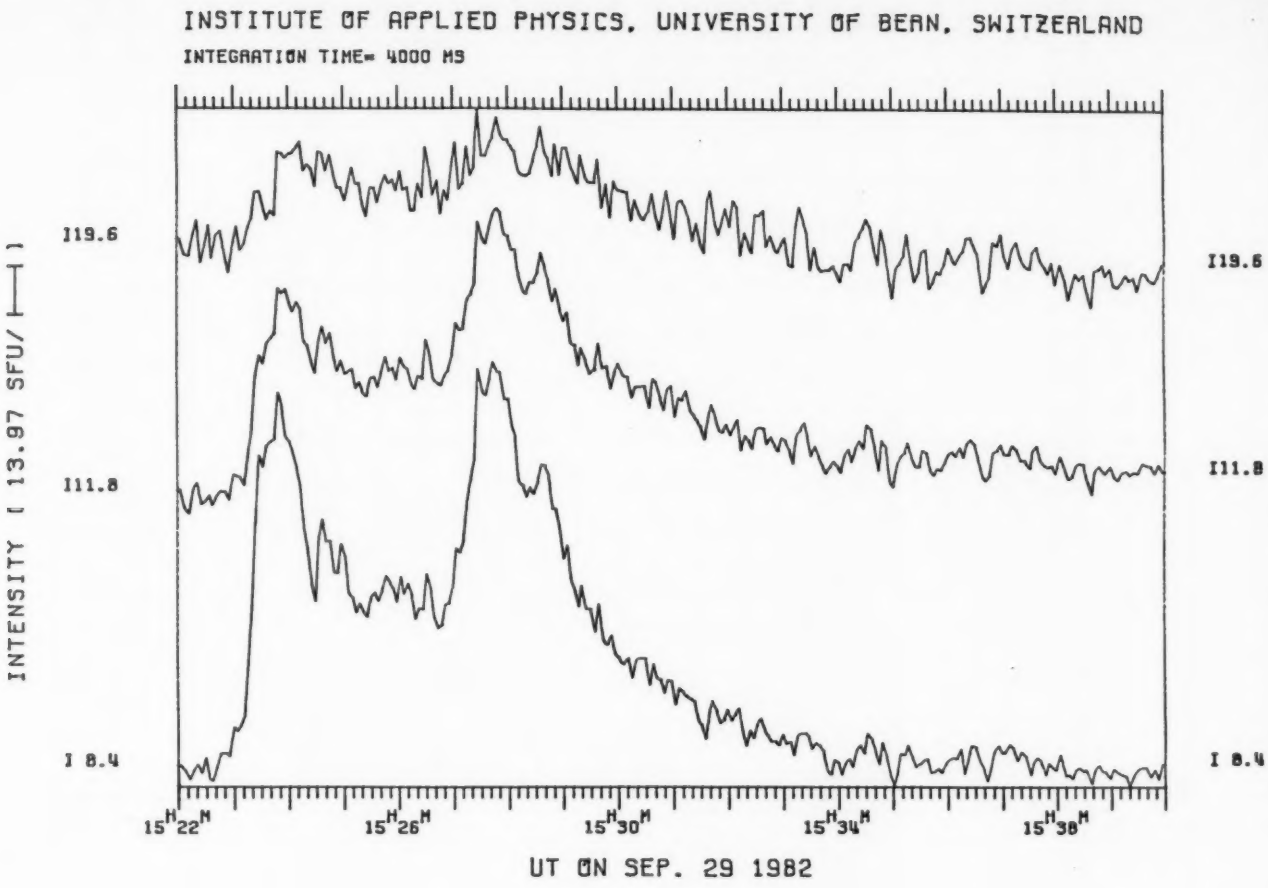
BERN = Berne  MANI = Manila  OTTA = Ottawa ARO  PENT = Penticton  SGMR = Sagamore Hill
LEAR = Learmonth  ATHN = Athens  PALE = Palehua

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset on Noise Storm
44 Noise Storm In Progress
45 Complex
46 Complex F
47 Great Burstise Storm
48 Major
49 Major +

INTENSITY ( 13.97 SFU/ )

# SELECTED SOLAR NOISE BURSTS



# INFERRED IP MAGNETIC FIELD

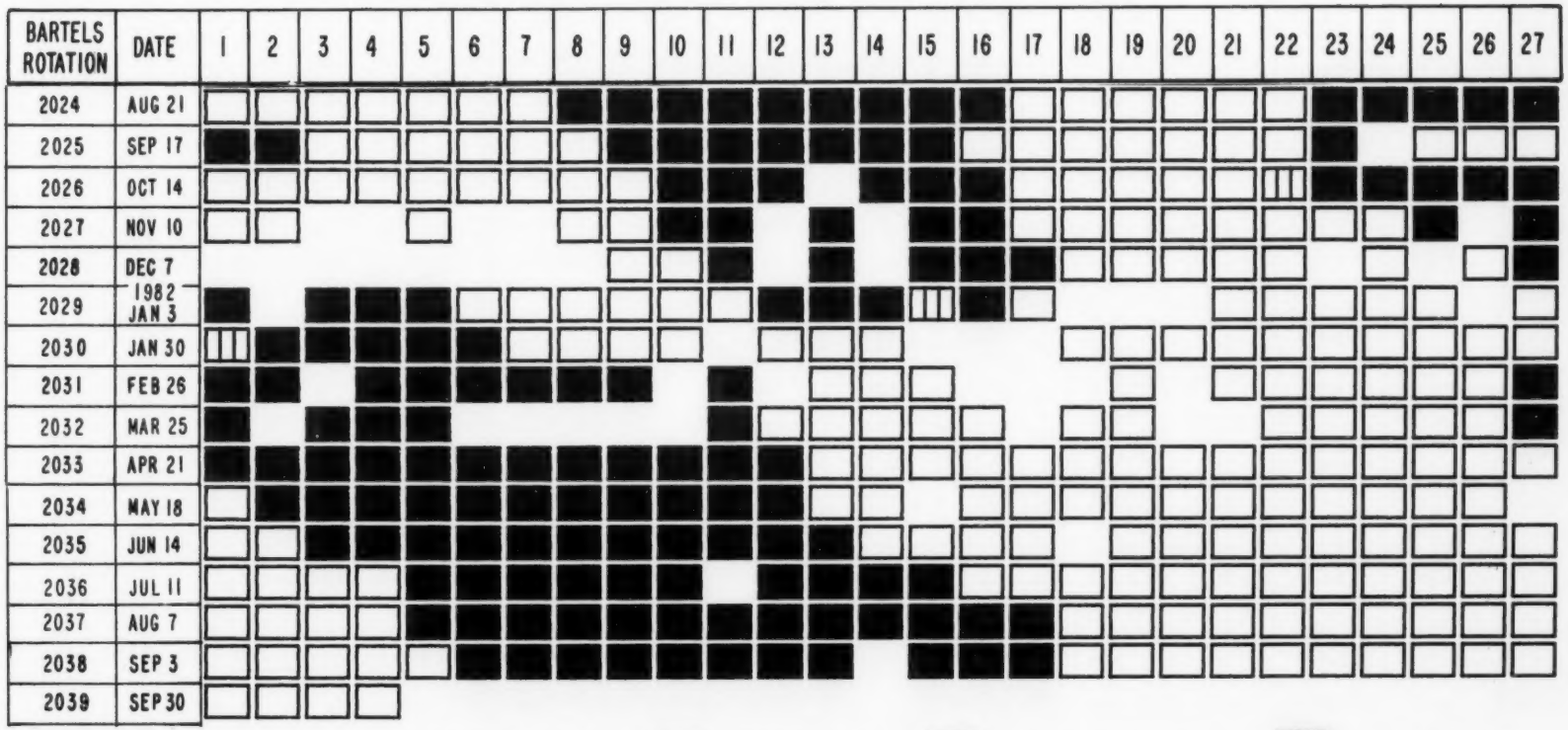
| BARTELS ROTATION | DATE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2018 | MAR 17 | | | | | | | AT | | | | | | - | | | | | TA | | | | AT | | - | - | | TA | AT |
| 2019 | APR 13 | TA | | - | | - | - | | | | - | | | | TA | | | | * | AT | - | | - | | | - | AT | | - | - |
| 2020 | MAY 10 | - | - | - | - | TA | AT | TA | | | | | TA | | | | | | | | | * | * | | | | | | | |
| 2021 | JUN 6 | | | * | | | | | | | AT | | | | TA | | | AT | | - | - | - | - | - | - | - | - | - | - | - |
| 2022 | JUL 3 | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2023 | JUL 30 | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | TA | - | TA | - | - | - | - | AT | - | - | - | - |
| 2024 | AUG 26 | - | - | - | - | TA | - | TA | - | - | TA | - | - | - | - | TA | - | TA | - | - | - | - | TA | - | - | - | - | - | - | - |
| 2025 | SEP 22 | | - | - | - | - | - | - | AT | - | TA | - | - | TA | - | TA | - | TA | - | AT | - | TA | - | TA | - | AT | - | TA | - | TA | - |
| 2026 | OCT 19 | AT | - | TA | - | TA | - | - | TA | - | TA | - | TA | - | - | - | TA | - | - | - | - | - | AT | - | TA | - | - | - | - | - |
| 2027 | NOV 15 | | - | - | - | - | AT | - | AT | - | - | - | - | - | - | - | TA | - | TA | - | TA | - | AT | - | - | - | - | AT | - | - |
| 2028 | DEC 12 | TA | - | - | - | - | - | AT | - | AT | - | - | - | - | - | - | - | AT | - | - | AT | - | TA | - | - | - | TA | - | - | - | - |
| 2029 | 1982 JAN 8 | | - | - | - | - | - | - | TA | - | TA | - | - | - | TA | - | - | TA | - | - | - | - | AT | - | - | - | - | AT | - | - | - |
| 2030 | FEB 4 | | - | - | - | - | TA | - | TA | - | TA | - | TA | - | - | - | TA | - | - | - | - | - | - | - | - | TA | - | - | - | TA | - |
| 2031 | MAR 3 | | - | - | - | - | - | - | - | TA | - | TA | - | - | - | TA | - | - | - | TA | - | TA | - | - | - | - | - | - | - | AT | - |
| 2032 | MAR 30 | | - | TA | - | - | TA | - | - | - | - | - | - | TA | - | - | - | AT | - | TA | - | TA | - | - | - | - | - | - | - | - | - |
| 2033 | APR 26 | - | - | AT | - | - | - | - | - | - | TA | - | TA | - | - | - | - | - | - | - | - | - | - | - | - | - | AT | - | AT | - | - |
| 2034 | MAY 23 | | - | - | - | - | AT | - | - | - | TA | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | TA | - |
| 2035 | JUN 19 | | - | - | - | - | - | - | - | - | - | - | - | TA | - | - | - | - | - | - | - | - | - | - | TA | - | - | - | - | - | - |
| 2036 | JUL 16 | | - | - | - | - | - | - | TA | - | - | - | - | - | - | AT | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2037 | AUG 12 | | - | - | - | - | - | - | - | - | - | - | TA | - | TA | - | - | - | - | TA | - | - | TA | - | - | - | - | - | - | - | - |
| 2038 | SEP 8 | TA | - | AT | - | - | - | - | - | - | - | - | - | - | TA | - | - | AT | - | - | - | - | - | TA | - | - | - | - | - | - | - |

▓ = definitely towards the sun  □ = definitely away from the sun

T = towards the sun  A = away from the sun  * = effect doubtful or not discernible  - = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day. The Thule magnetometer ceased operating in August 1981.

## STANFORD MEAN SOLAR MAGNETIC FIELD




POLARITY OF THE MEAN SOLAR MAGNETIC FIELD: □ = FIELD >2μT, ▥ = -2μT ≤FIELD ≤2μT, ■ = FIELD <-2μT
No box visible indicates no data available for that day.

NOTE: Data are taken daily at 2000 UT. Dates given are not Bartels Rotation dates. These earlier dates correspond to the occurrence of phenomena on the Sun that affect the Earth during the given Bartels Rotation.

# STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

| | 1981 | | | 1982 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| day | OCT. | NOV. | DEC. | JAN. | FEB. | MARCH | APRIL | MAY | JUNE | JULY | AUG. | SEPT. |
| 01 | -27 | 94 | 41 | 15 | -20 | -19 | . | -6 | . | . | 49 | 89 |
| 02 | 11 | 82 | 34 | -6 | -44 | -9 | . | -6 | 33 | 85 | 19 | 102 |
| 03 | 70 | 55 | 49 | -17 | -29 | -20 | . | 23 | 38 | 75 | 19 | 84 |
| 04 | 104 | -1 | -3 | . | -3 | -39 | -17 | 43 | 54 | 71 | 52 | 66 |
| 05 | 115 | -19 | . | -10 | 9 | -44 | 3 | 48 | 80 | 53 | 85 | 68 |
| 06 | 104 | -36 | -12 | -5 | 19 | -21 | 38 | 16 | 82 | 35 | 105 | 55 |
| 07 | 28 | -29 | . | -4 | 43 | . | 60 | 41 | 77 | 29 | 81 | 30 |
| 08 | 25 | -23 | . | 25 | 64 | -2 | 57 | 69 | 79 | 42 | 63 | -27 |
| 09 | -7 | -16 | . | 23 | . | . | 24 | 74 | 68 | 54 | 59 | -55 |
| 10 | . | 11 | . | 36 | 15 | 16 | . | 70 | 54 | 63 | 33 | -74 |
| 11 | 8 | 34 | . | 45 | 24 | 34 | 61 | 65 | 50 | 87 | -30 | -93 |
| 12 | 32 | . | . | 35 | 33 | 35 | 46 | 79 | 58 | 79 | -87 | -124 |
| 13 | 43 | . | . | 16 | . | . | . | 82 | . | 43 | -118 | -125 |
| 14 | 64 | 105 | . | -7 | . | . | . | 77 | 78 | 9 | -121 | -120 |
| 15 | 103 | . | 57 | -6 | . | . | 86 | 72 | 51 | -39 | -144 | -112 |
| 16 | 115 | . | 17 | -12 | 14 | 21 | 93 | 51 | -13 | -112 | -149 | . |
| 17 | 167 | 48 | -5 | -1 | 16 | . | 71 | 38 | -51 | -164 | -141 | -49 |
| 18 | 218 | 3 | . | -3 | 5 | 4 | 46 | 27 | -93 | -193 | -124 | -28 |
| 19 | 193 | -28 | -37 | 33 | 15 | 20 | 28 | -15 | -184 | -201 | -93 | -14 |
| 20 | 115 | -45 | . | . | 27 | 31 | -6 | -57 | -237 | -189 | -59 | 12 |
| 21 | 65 | . | -39 | . | 38 | 25 | -38 | -68 | -225 | . | -32 | 40 |
| 22 | 9 | -65 | -11 | . | 48 | 22 | -78 | -93 | -170 | -128 | -16 | 44 |
| 23 | -62 | . | -2 | 9 | 41 | 14 | -113 | -132 | -123 | -71 | -12 | 26 |
| 24 | -107 | -43 | 35 | 25 | 28 | -2 | -107 | -158 | -69 | -29 | 5 | 10 |
| 25 | -128 | -20 | 4 | 35 | 10 | -26 | -93 | -151 | -56 | -5 | 32 | 8 |
| 26 | . | 58 | 39 | 42 | -3 | . | -104 | -118 | -39 | 12 | 39 | 18 |
| 27 | -61 | 83 | 17 | 36 | -34 | -61 | -117 | -26 | 11 | 28 | 47 | 36 |
| 28 | -60 | 96 | 29 | . | . | -56 | -122 | -26 | 37 | 38 | 46 | 72 |
| 29 | -19 | 59 | . | 15 | | -53 | -77 | -10 | 46 | 48 | 25 | 57 |
| 30 | 67 | 55 | 24 | 0 | | . | -26 | 19 | 59 | 61 | 39 | 52 |
| 31 | 87 | | . | -10 | | . | | 46 | | 53 | 64 | |

DOT SYMBOL INDICATES NO DATA AVAILABLE FOR THE DAY.

# P I O N E E R  X I I
## SOLAR WIND

September 1982

| DATE Sep '82 | TIME (UT) | ESV (°) | $U_{H+}$ (km/s) | $N_{H+}$ ($H^+$/cc) | $T_{H+}$ (x$10^6$ K) |
|---|---|---|---|---|---|
| 1 | 1729 | 139. | 442. | 15.6 | 0.266 |
| 2 | 0315 | | 547. | 16.9 | .397 |
| 3 | 2042 | | 550. | 15.1 | .201 |
| 4 | 0402 | | 512. | 14.1 | .226 |
| 5 | 0554 | | 379. | 24.9 | .089 |
| 6 | 0235 | | 349. | 31.6 | .09 |
| 7 | 0244 | | 317. | 126.8 | .04 |
| 8 | 1802 | | 572. | 17.2 | .367 |
| 9 | 0032 | | 543. | 16.3 | .135 |
| 10 | 0050 | | 578. | 16.7 | .364 |
| 11 | 0312 | | 560. | 12.8 | .402 |
| 12 | 0309 | | 462. | 20.6 | .116 |
| 13 | 0029 | | 374. | 20.1 | .039 |
| 14 | 1640 | | 456. | 24.8 | .169 |
| 15 | 1919 | 149. | 489. | 17.6 | .206 |
| 16 | 0432 | | 470. | 18.6 | .184 |
| 17 | 0234 | | 452. | 12.1 | .198 |
| 18 | 0719 | | 339. | 17. | .101 |
| 19 | 0829 | | 310. | 40.2 | .067 |
| 20 | 0221 | | 308. | 56.1 | .075 |
| 21 | 0443 | | 411. | 30.9 | .072 |
| 22 | 1423 | | 392. | 80.1 | .094 |
| 23 | 0040 | | 375. | 31.3 | .066 |
| 24 | 1407 | | 378. | 21.2 | .092 |
| 25 | 0313 | | 461. | 9.3 | .102 |
| 26 | 0634 | | 450. | 12.1 | .075 |
| 27 | 0001 | | 434. | 15. | .139 |
| 28 | 0438 | | 422. | 19. | .164 |
| 29 | 1608 | | 389. | 25. | .19 |
| 30 | 0018 | | 369. | 14.6 | .065 |

# BOULDER GEOMAGNETIC SUBSTORM LOG
September 1982

| DATE | ONSET TIME | DIR | COMMENTS |
|---|---|---|---|
| 09/01 | | | Field intermittently unsettled. |
| | 1220 | West | |
| 09/02 | | | Field unsettled all day. |
| | 0655 | West | |
| | 1155 | West | |
| | 1320 | West | |
| 09/03 | | | Field unsettled all day. |
| | 0620 | West | Moderate SS Ft. Simpson eastward. Several injections with recovery near 0830 UT. |
| | 0945 | West | Moderate SS, several injections with recovery near 1230 UT. |
| 09/04 | | | Field intermittently active. |
| | 0355 | East | Weak SS. |
| | 0505 | East | Weak SS. |
| | 0600 | Center | |
| | 0925 | West | Moderate SS at College. |
| | 1140 | West | Moderate SS at College. |
| | 1410 | | Strongest response Ft. Simpson eastward. |
| 09/05 | | | Minor magstorm conditions 0600-1700 UT. |
| | 2250 | SSC | Magstorm follows. |
| 09/06 | | | Magstorm conditions through 1900 UT. |
| 09/07 | | | Magstorm conditions 0600-2000 UT. |
| 09/08 | | | Field intermittently unsettled with no distinctive SS activity. |
| 09/09 | | | Field disturbed all latitudes 0100-0400 UT, not SS related. |
| | 1135 | West | Moderate SS, College to Anchorage. |
| 09/10 | | | Field intermittently unsettled with no distinctive SS activity. |
| 09/11 | | | Field intermittentiy unsettled. |
| | 1145 | West | |
| 09/12 | | | Field intermittently unsettled. |
| | 0905 | West | Weak SS. |
| 09/13 | | | Field intermittently unsettled. |
| | 0205 | East | Boulder in partial ring current sector. |
| | 0945 | | Weak SS. |
| | 1440 | West | |
| 09/14 | | | Field intermittently unsettled. |
| | 1855 | | Polar cap SS, Inuvik northward. |
| | 1950 | | Polar cap SS, Cape Parry to Sachs Harbour. |
| 09/15 | | | Field unsettled all day. |
| | 0810 | | Weak SS. |
| 09/16 | | | Field intermittently unsettled with no distinctive SS activity. |
| 09/17 | | | Field intermittently unsettled. |
| | 0850 | West | |
| | 0915 | | Moderate injection into existing SS. |
| 09/18 | | | Field unsettled all day. |
| | 0820 | | Weak SS. |
| 09/19 | | | Field unsettled all day. |
| | 1010 | | Weak SS. |
| | 1400 | | Localized SS, Anchorage to College. |
| | 1500 | West | |
| | 1800 | | Response stronger Inuvik northward. |
| 09/20 | | | Field unsettled all day. |
| | 0635 | West | |
| | 1015 | | Localized SS, Anchorage to College. |
| | 1350 | | Localized SS, Anchorage to College. |
| 09/21 | 0339 | SSC | Magstorm follows. |
| 09/22 | | | Magstorm continued through 1400 UT. |
| 09/23 | | | Field intermittently active. Large temporal/spacial variations in substorm injection processes. |
| 09/24 | 0620 | Center | Several injections with recovery near 0830 UT. |
| | 1055 | West | |
| | 1345 | West | |
| 09/25 | | | Field unsettled after 0800 UT with no distinctive SS activity. |
| | 2025 | | Weak positive impulse H-component all mid/low latitude stations. |
| 09/26 | | | Magstorm conditions after 0600 UT. |
| 09/27 | | | Field unsettled all day. |
| | 0020 | East | Several injections with recovery near 0200 UT. |
| | 0440 | | Weak SS. |
| | 0720 | East | |
| | 0825 | East | |
| | 0910 | West | |
| 09/28 | | | Field intermittently unsettled. |
| | 0225 | East | |
| | 0400 | East | |
| | 2120 | | Positive impulse H-component all mid/low latitude stations. |
| 09/29 | | | Field unsettled 0700-1400 UT. |
| | 0740 | East | |
| | 0850 | West | |
| 09/30 | | | Field unsettled after 0730 UT. |
| | 0740 | West | |

# AUGUST 1982 DATA

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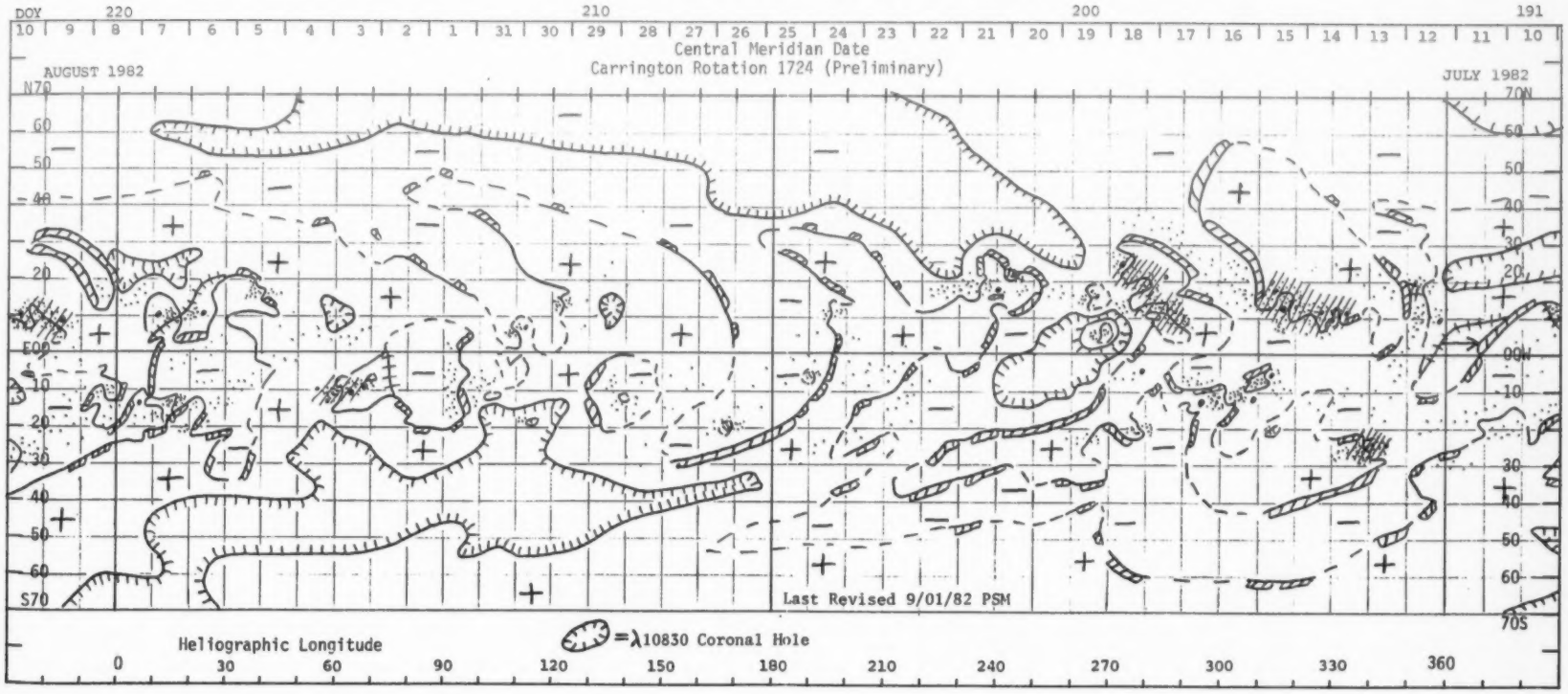
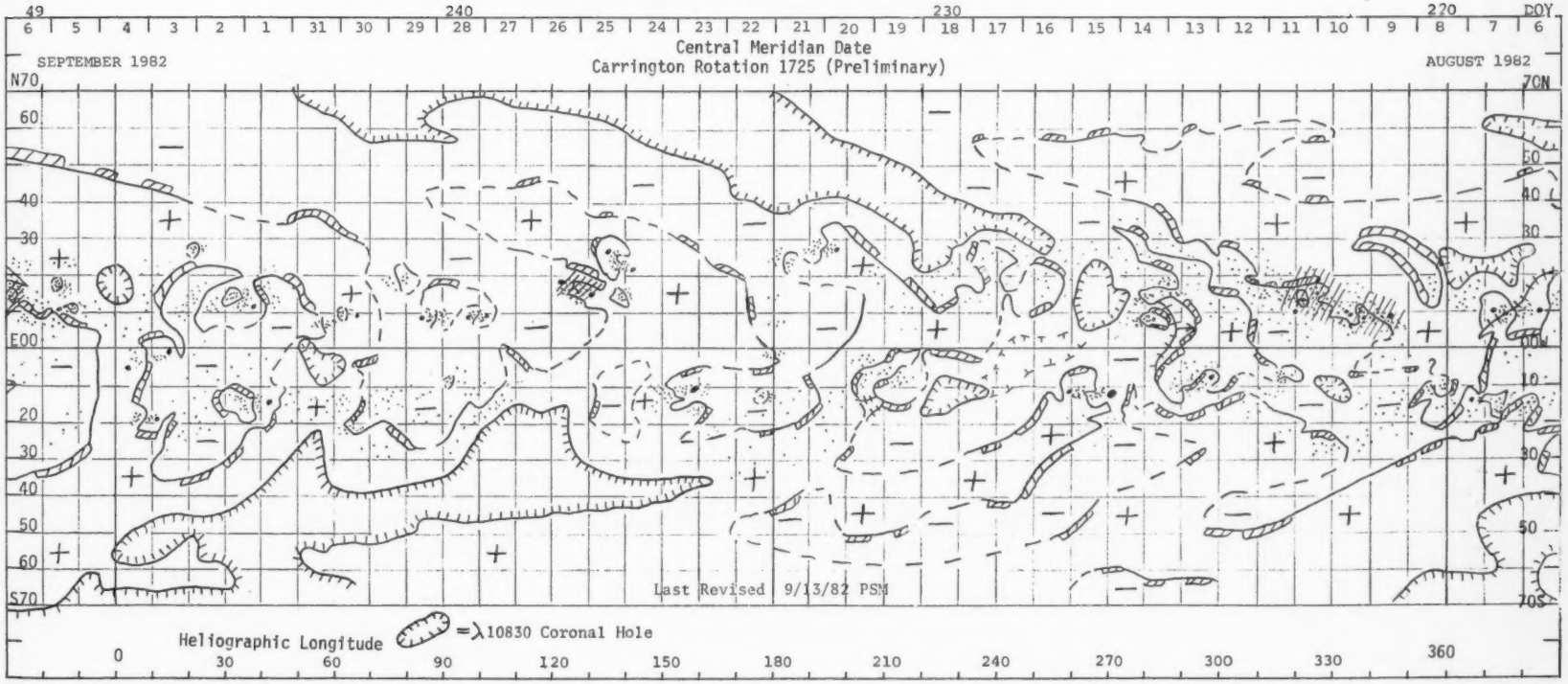
# Hα SYNOPTIC CHART

## CARRINGTON ROTATION 1724 (PRELIMINARY)



# Hα SYNOPTIC CHART

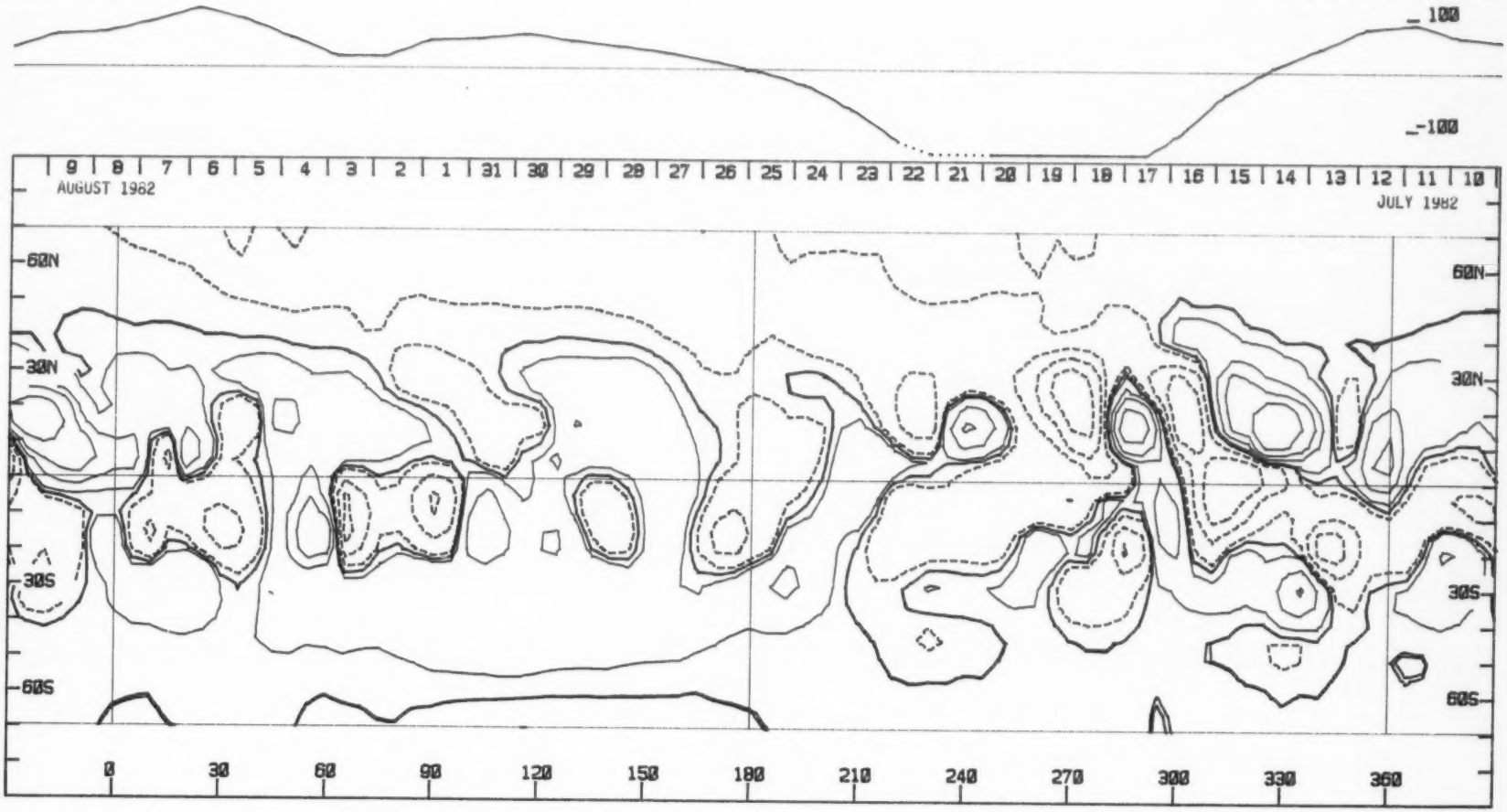
## CARRINGTON ROTATION 1725 (PRELIMINARY)



# SOLAR MAGNETIC FIELD SYNOPTIC CHART
## CARRINGTON ROTATION 1724

Stanford Solar Observatory

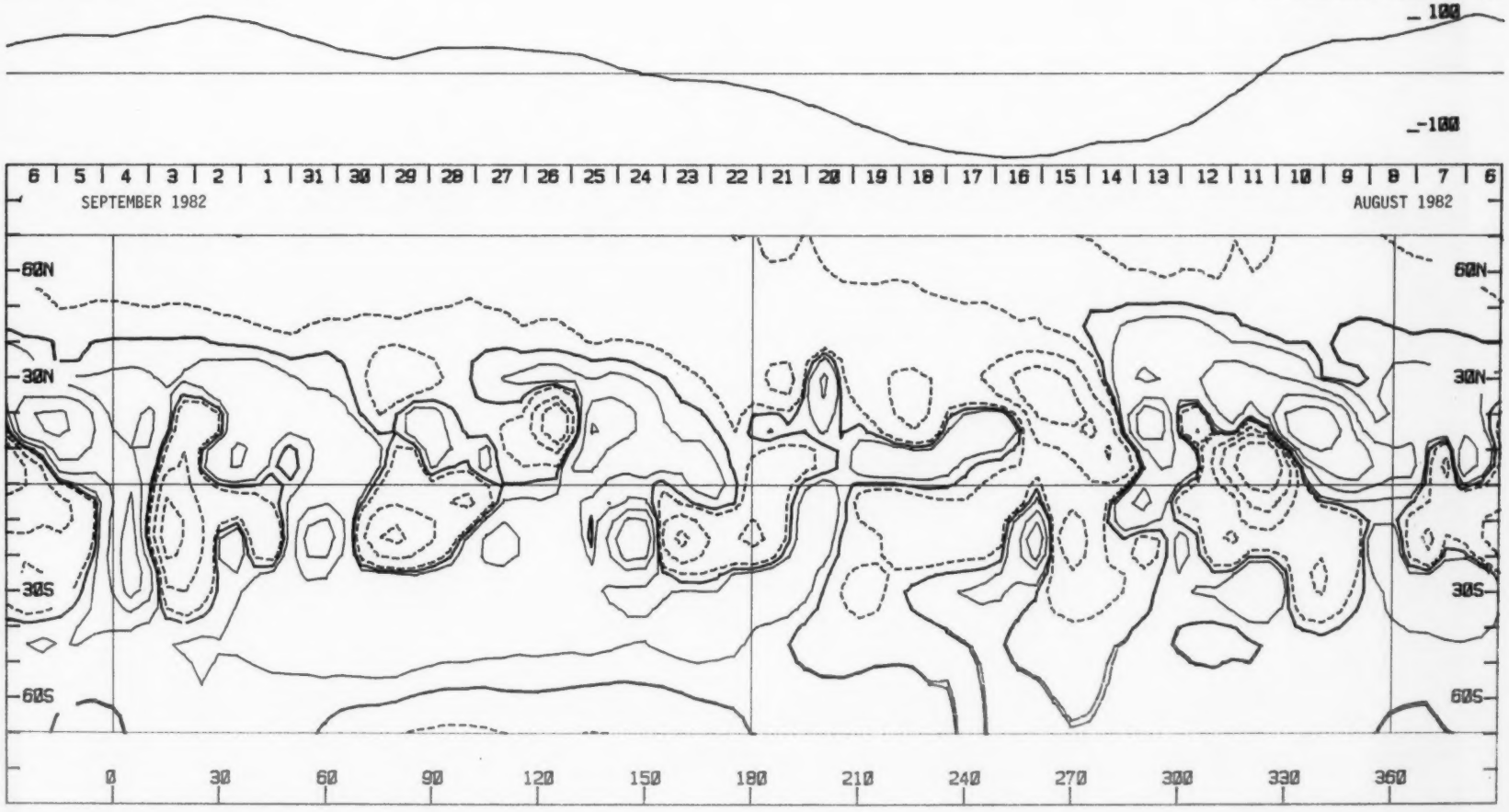
0,±100,200,500... μT

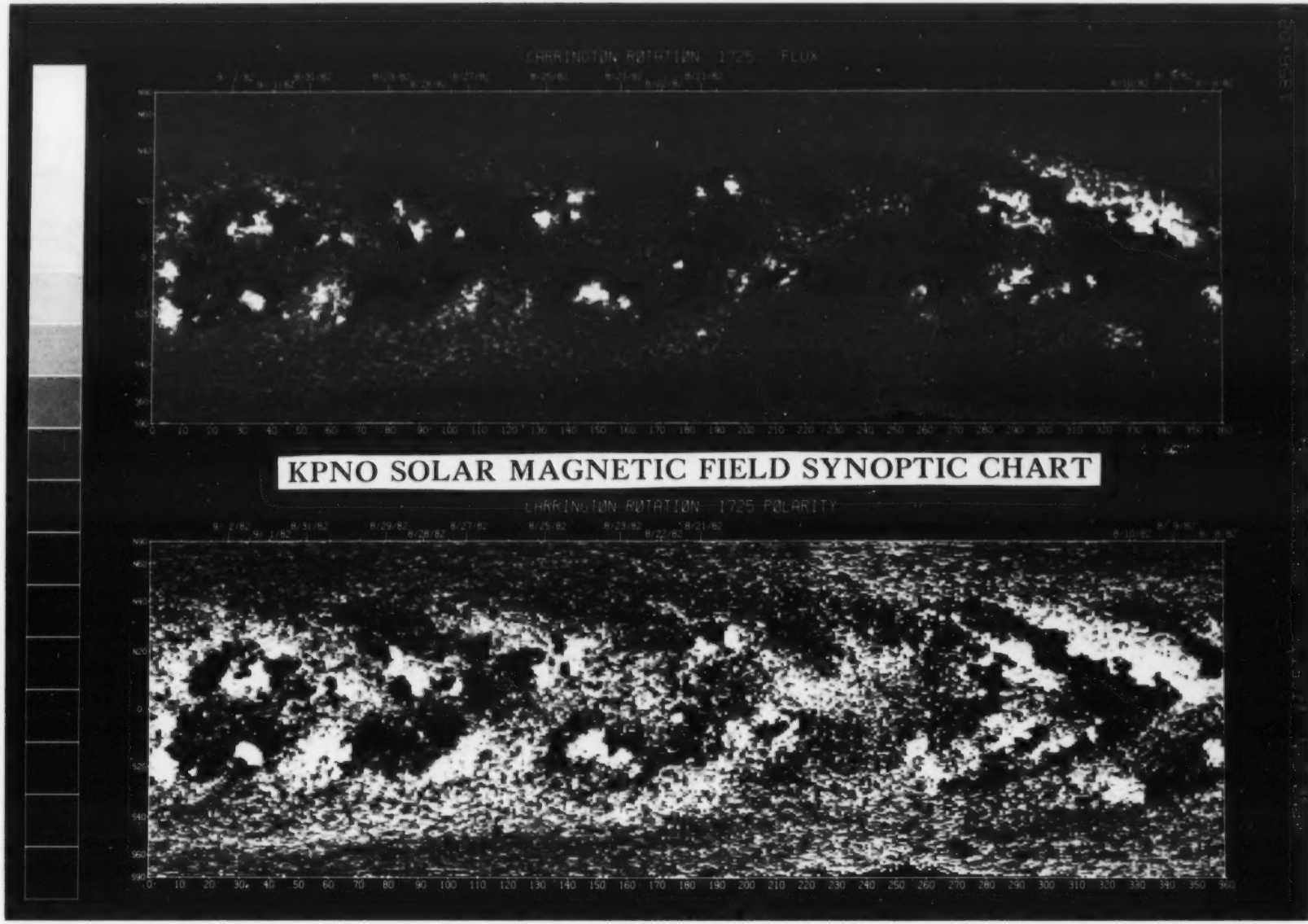


# SOLAR MAGNETIC FIELD SYNOPTIC CHART
## CARRINGTON ROTATION 1725

Stanford Solar Observatory

0,±100,200,500... μT

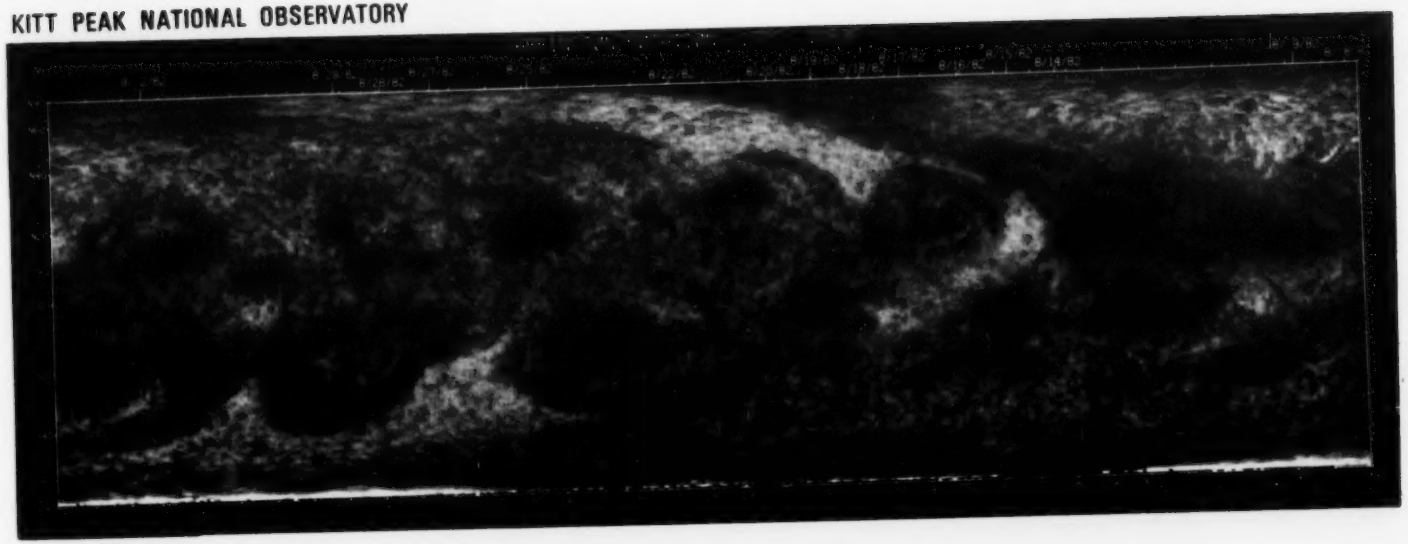





KPNO SOLAR MAGNETIC FIELD SYNOPTIC CHART

# HELIUM 10830Å SYNOPTIC MAPS
# CARRINGTON ROTATION 1725

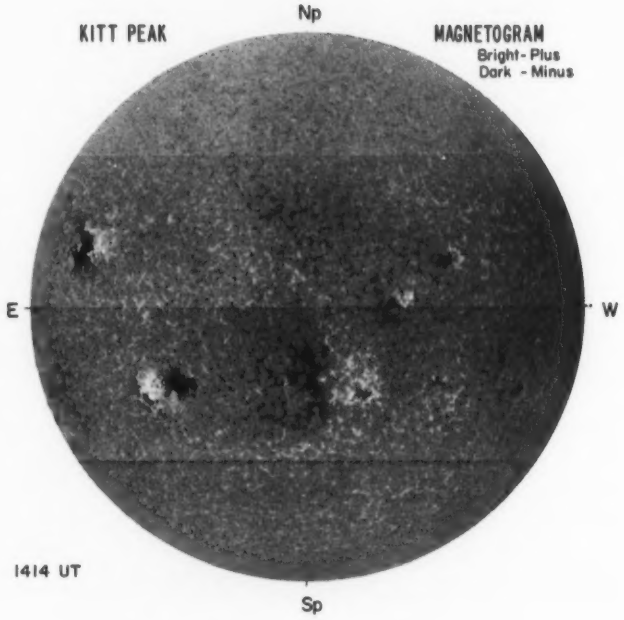
KITT PEAK NATIONAL OBSERVATORY

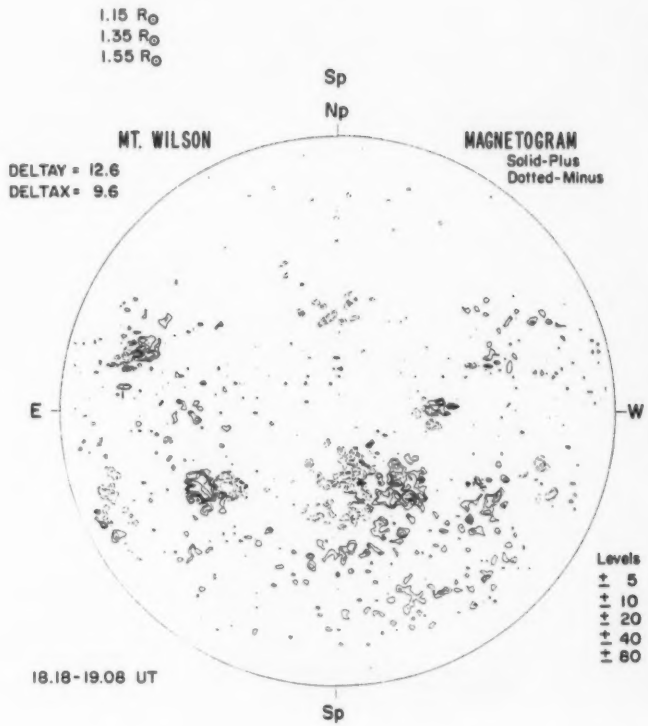


AUGUST 1, 1982 (P= 10.70, $B_o$ = 5.78, $L_o$ = 97.94)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA AUGUST 1-30, 1982 W



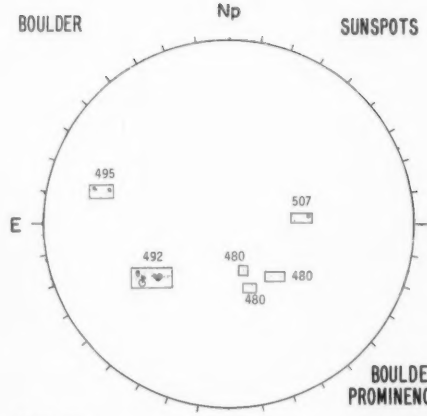
01

SACRAMENTO PEAK

1545 UT

Hα

BOULDER



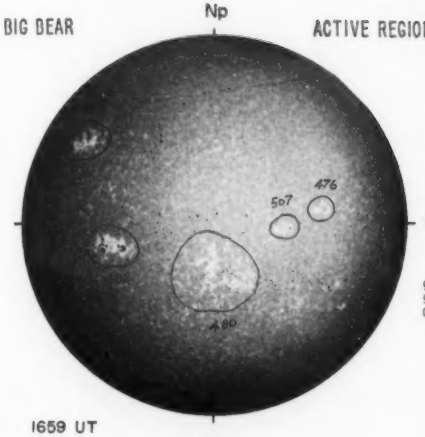

1515 UT

SUNSPOTS

BOULDER PROMINENCES

1645 UT

BIG BEAR

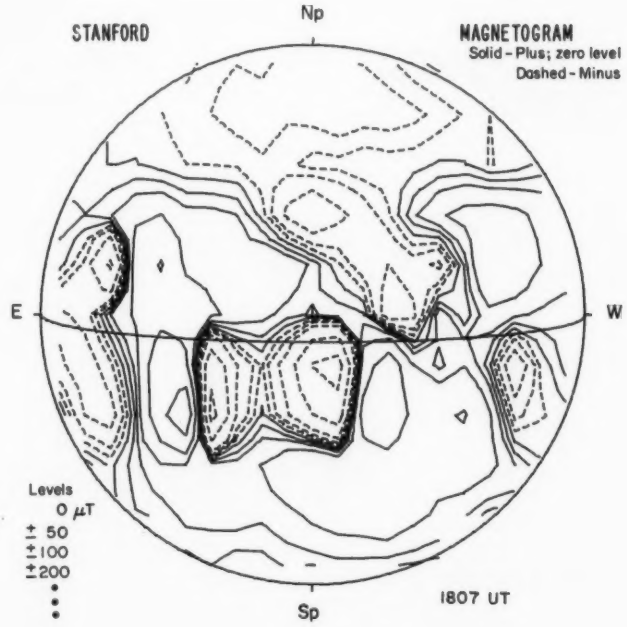



1659 UT

ACTIVE REGIONS

92- 2500-2.5
95- 2500-2.5
07- 0600-2.5

STANFORD




1807 UT

MAGNETOGRAM

Solid - Plus; zero level

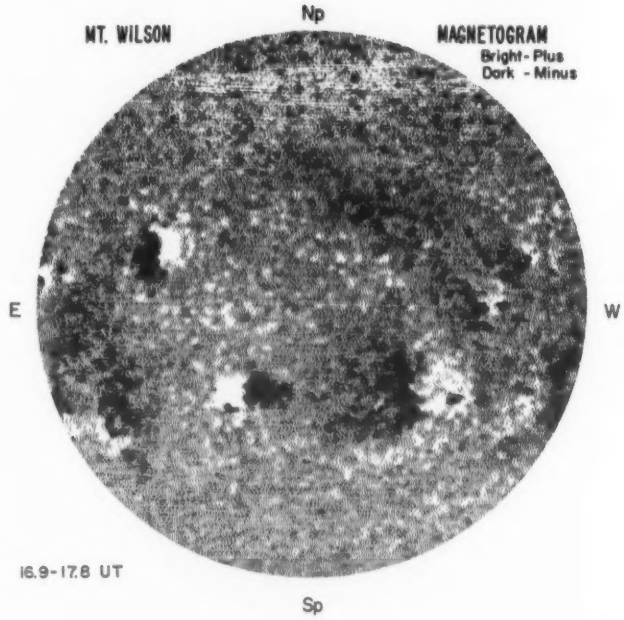
Dashed - Minus

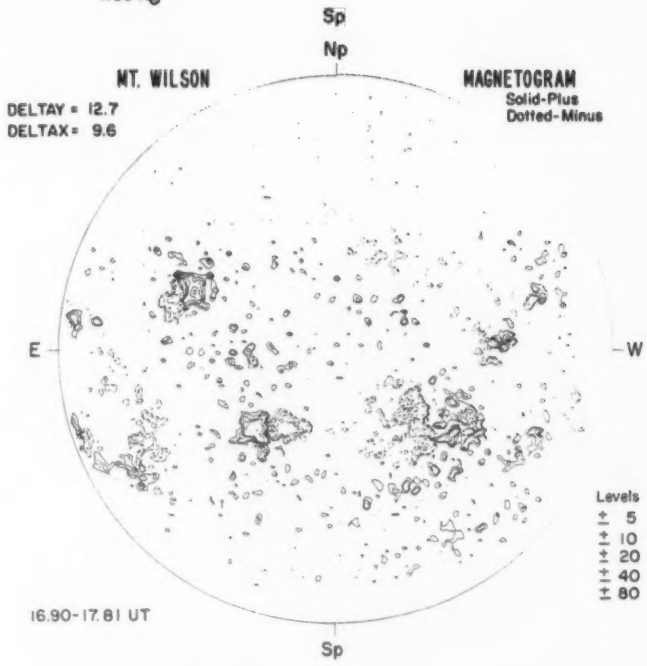
AUGUST 2, 1982 (P=11.09, $B_o$ = 5.85, $L_o$ = 84.71)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

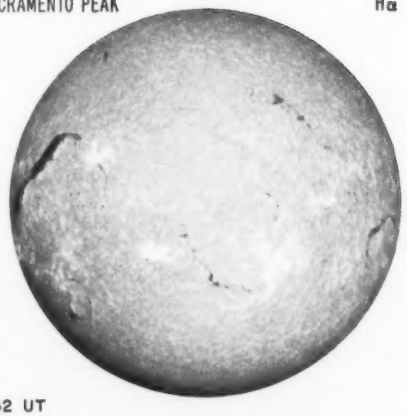
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$



02

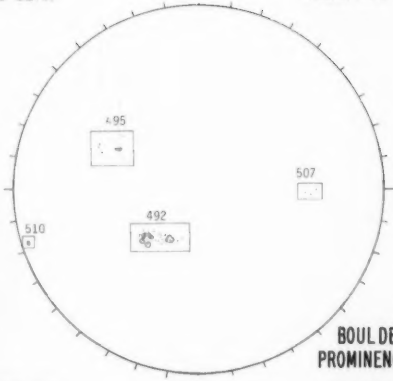
SACRAMENTO PEAK Np Hα



E W

1632 UT Sp

BIG BEAR Np SUNSPOTS



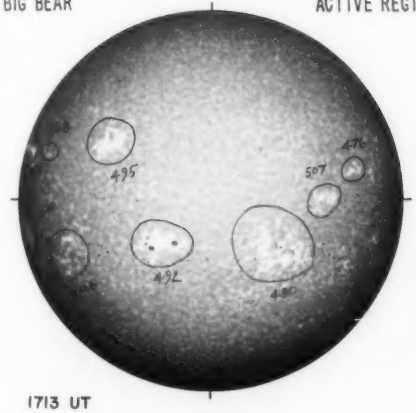

E W

1715 UT Sp

BOULDER PROMINENCES

NO DATA

BIG BEAR Np ACTIVE REGIONS




E W

1713 UT Sp

80- 2800-2.5
92- 3200-3.0
95- 2400-3.0
09- 0600-2.5

STANFORD Np

MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

E NO DATA AUGUST 2, 3, 5, 8, 16, 17, 19, 25, 27, 28, 31 W

Levels
0 μT
± 50
±100
±200

Sp

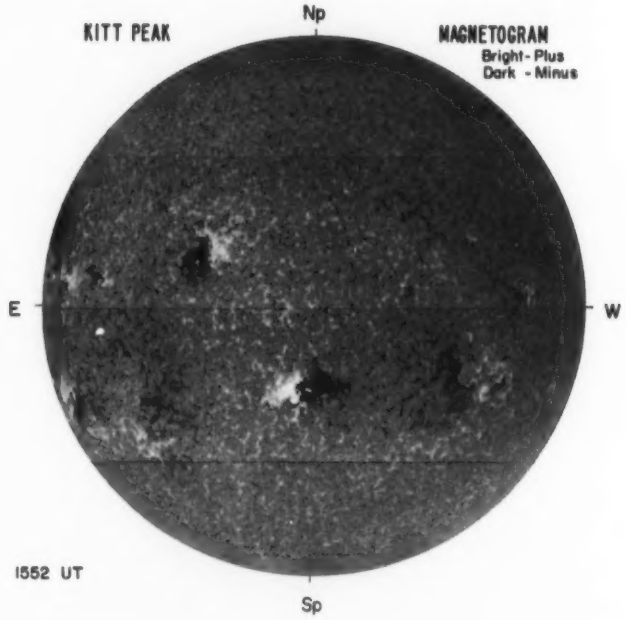
AUGUST 3, 1982 (P= 11.49, $B_o$ = 5.92, $L_o$ = 71.49)

SACRAMENTO PEAK Np CORONA 5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus



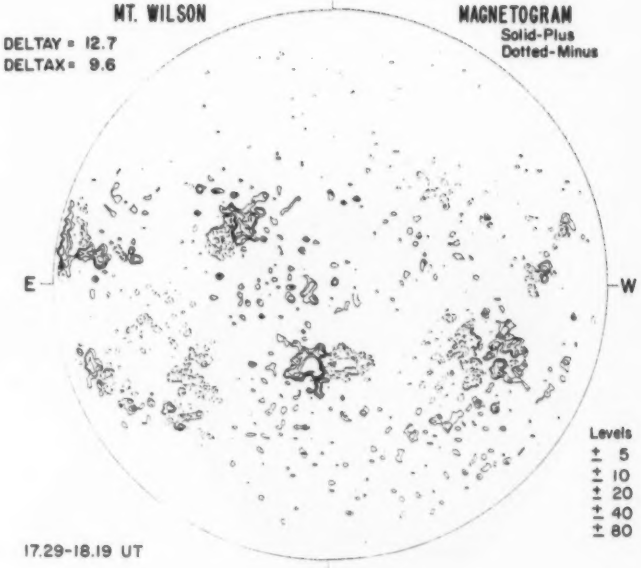

1552 UT

Sp

Np

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.7
DELTAX= 9.6




17.29-18.19 UT

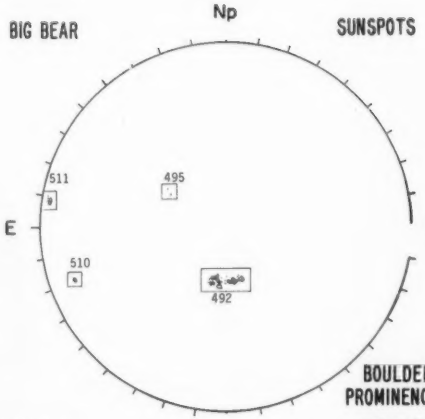
Sp

03

SACRAMENTO PEAK Hα

1723 UT

BIG BEAR SUNSPOTS

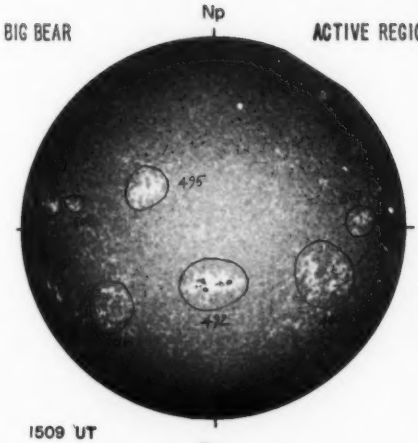



1540 UT

BOULDER PROMINENCES

NO DATA

BIG BEAR ACTIVE REGIONS

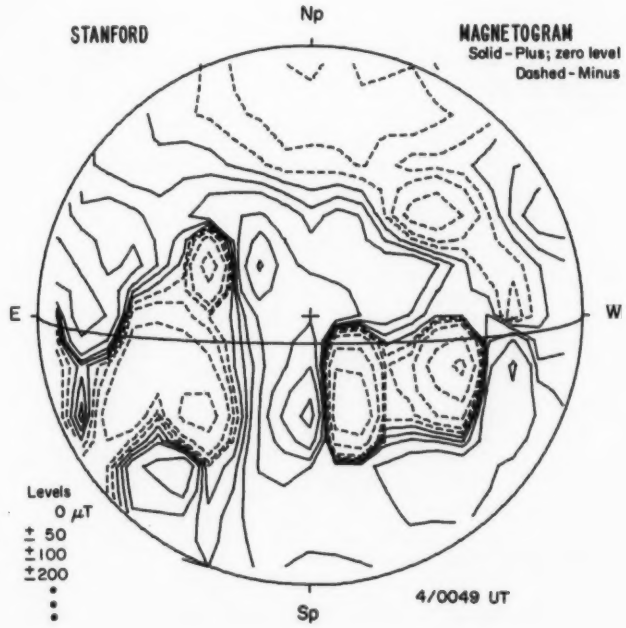



80- 2400-2.5
92- 3400-3.5
95- 2200-3.0
11- 2000-4.0

1509 UT

STANFORD MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus




4/0049 UT

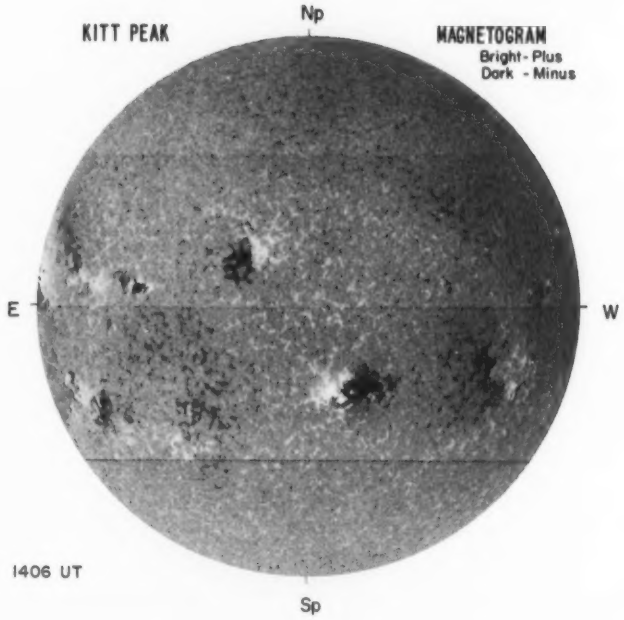
AUGUST 4, 1982 (P= 11.88, $B_o$= 5.99, $L_o$= 58.26)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

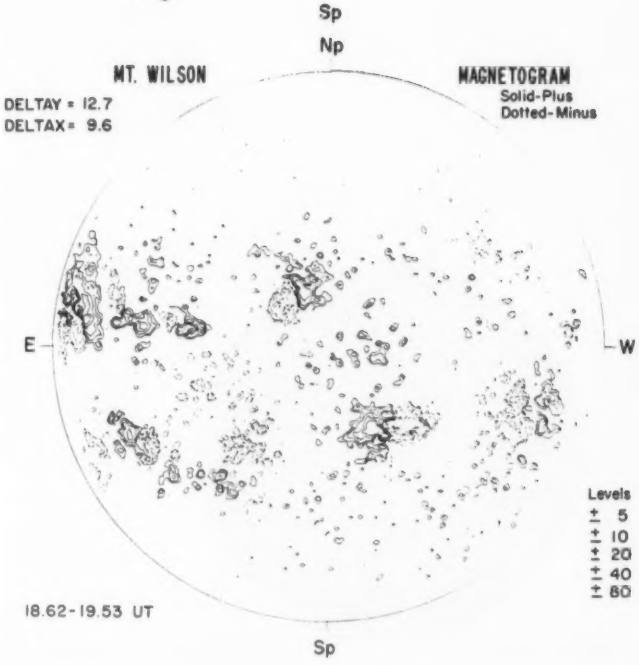
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus



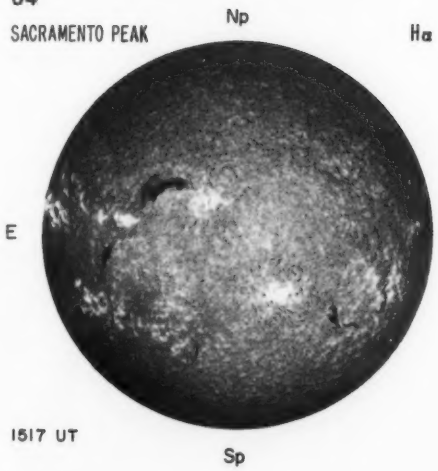

1406 UT

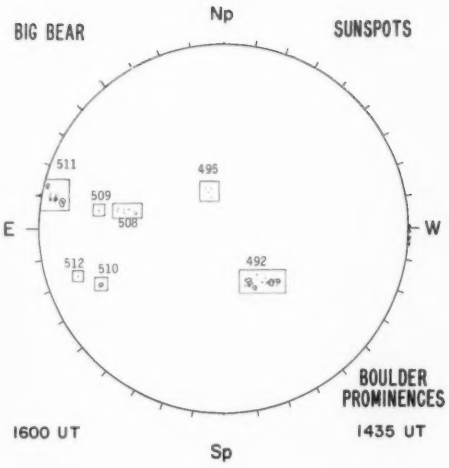
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.6

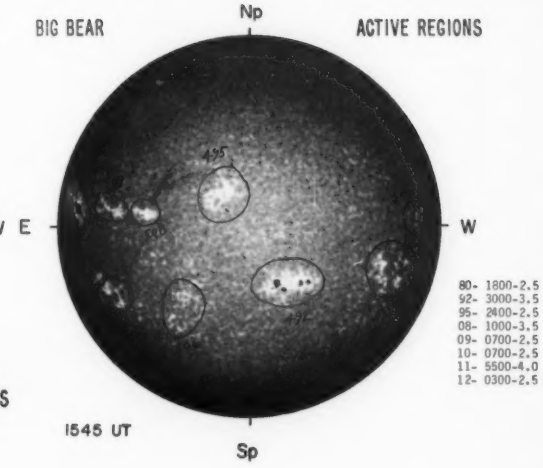



18.62-19.53 UT

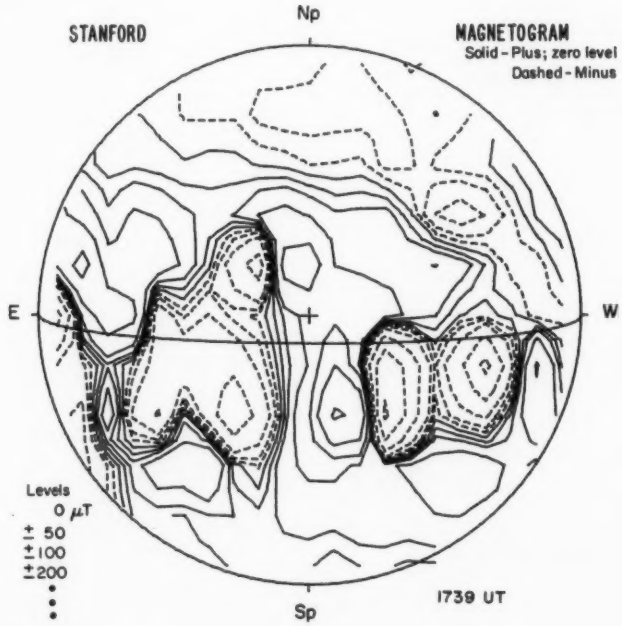
04


SACRAMENTO PEAK
Np
Hα
E
W
Sp
1517 UT


BIG BEAR
Np
SUNSPOTS
511
509
508
495
512
510
492
E
W
Sp
1600 UT


BOULDER
PROMINENCES
1435 UT


BIG BEAR
Np
ACTIVE REGIONS
E
W
Sp
1545 UT
80- 1800-2.5
92- 3000-3.5
95- 2400-2.5
08- 1000-3.5
09- 0700-2.5
10- 0700-2.5
11- 5500-4.0
12- 0300-2.5

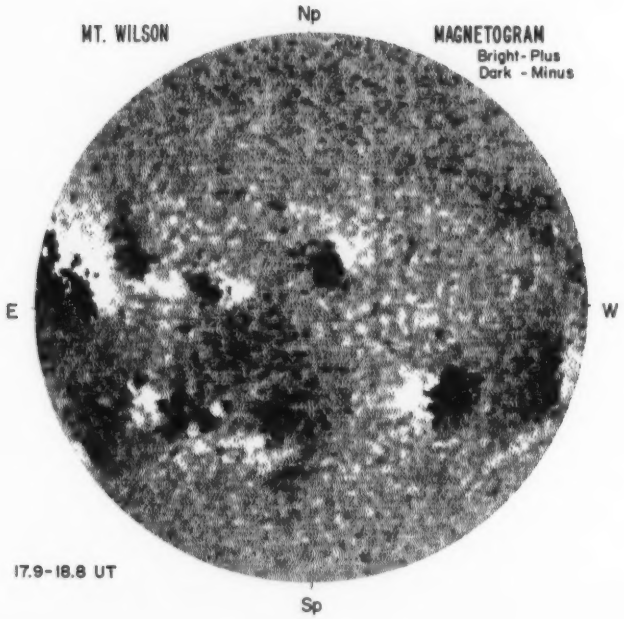

STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Sp
1739 UT
Levels
0 μT
± 50
±100
±200

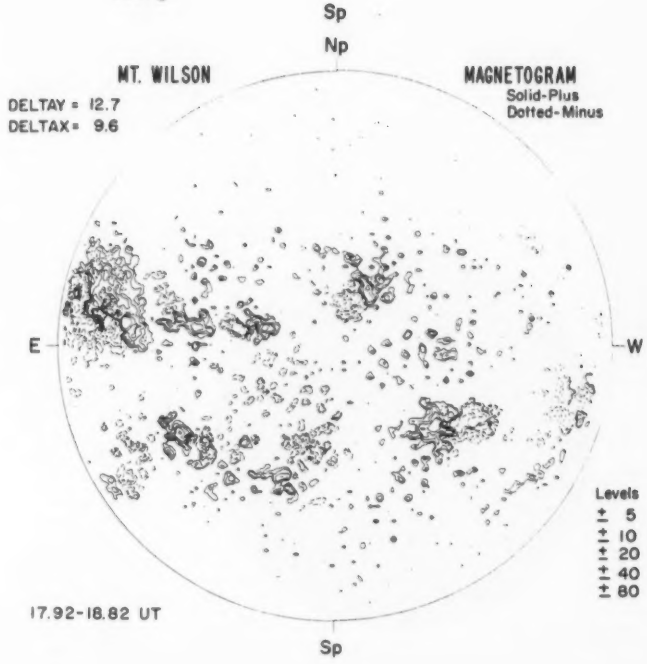
AUGUST 5, 1982 (P= 12.27, $B_o$= 6.06, $L_o$= 45.04)

SACRAMENTO PEAK Np CORONA 5303 Å

E NO DATA W

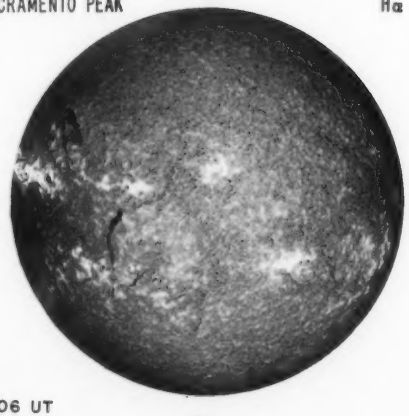
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$



05

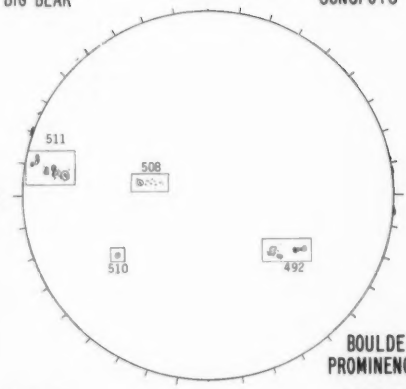
SACRAMENTO PEAK Np Hα



E W

1506 UT Sp

BIG BEAR Np SUNSPOTS



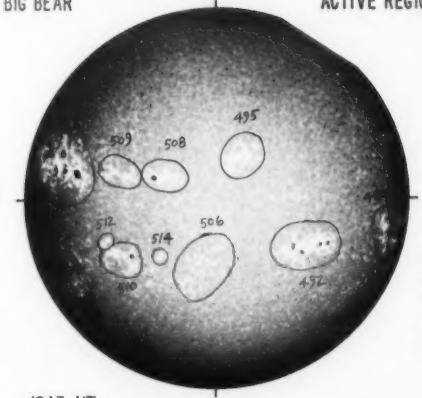

E W

1540 UT Sp

BOULDER PROMINENCES

1435 UT

BIG BEAR Np ACTIVE REGIONS




E W

1913 UT Sp

80- 1600-2.5
92- 3500-4.0
95- 1900-2.5
08- 1200-3.0
09- 0600-2.5
10- 1100-3.0
11-14000-4.0
12- 0300-2.5

STANFORD Np

MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

E NO DATA W

Levels
0 μT
± 50
±100
±200
•
•
•

Sp

AUGUST 6, 1982 (P= 12.65, $B_o$ = 6.12, $L_o$ = 31.81)

SACRAMENTO PEAK Np CORONA 5303 Å

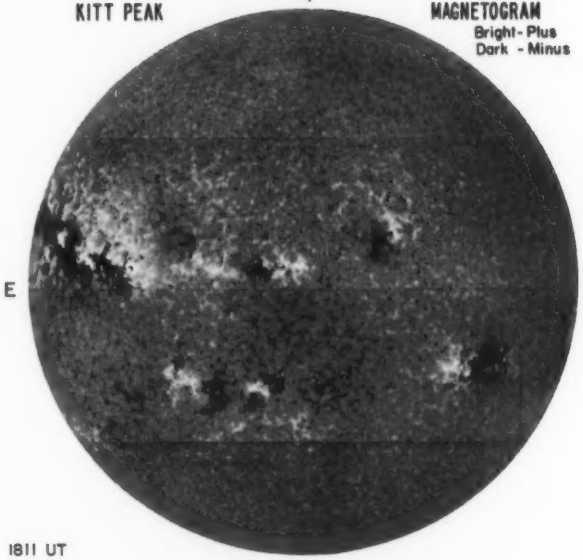
E W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

KITT PEAK MAGNETOGRAM Bright - Plus Dark - Minus



E W

1811 UT

Sp

MT. WILSON MAGNETOGRAM Solid - Plus Dotted - Minus

DELTAY =
DELTAX =

E W

NO DATA AUGUST 6, 18, 23, 24, 26

Levels
± 5
± ± 10
± ± ± 20
± ± ± 40
± ± ± 80

Sp

06

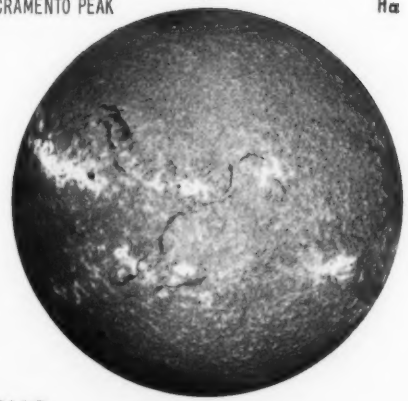
SACRAMENTO PEAK

Np

Hα

E

W



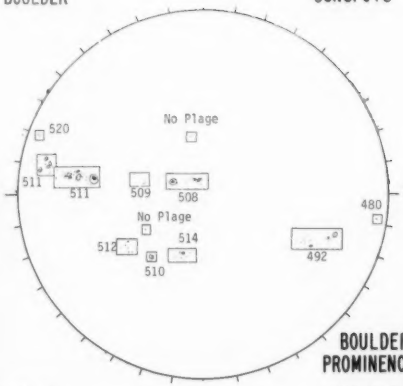
1501 UT

Sp

BOULDER

Np

SUNSPOTS




E W E

BOULDER PROMINENCES

1430 UT

Sp

1430 UT

BIG BEAR

Np

NO DATA AUGUST 6, 13, 24, 1982

E W

Sp

ACTIVE REGIONS

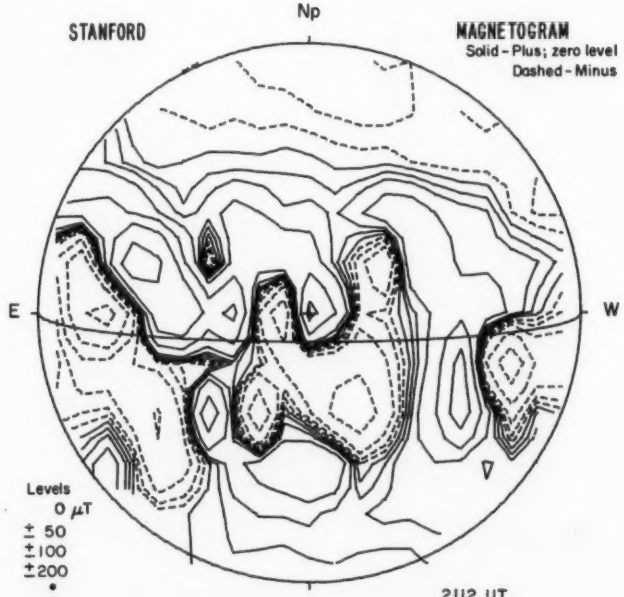
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus




Sp

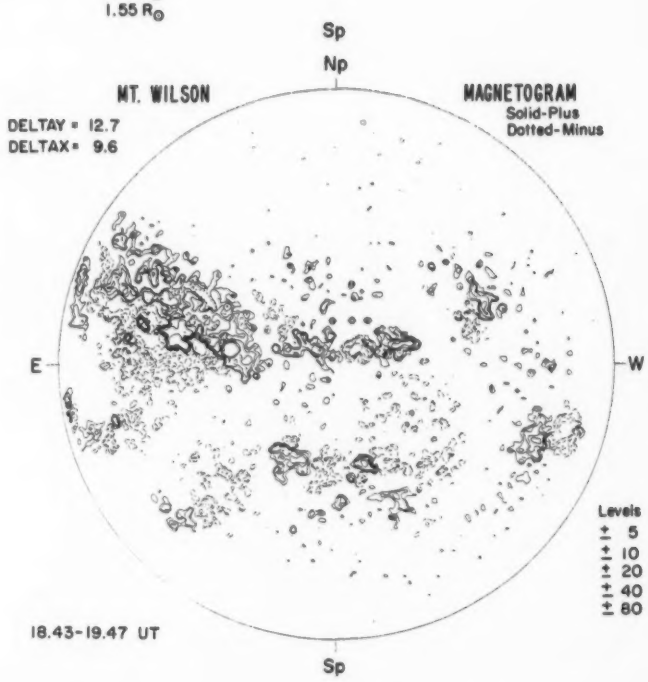
2112 UT

AUGUST 7, 1982 (P= 13.03, $B_o$ = 6.19, $L_o$ = 18.59)

SACRAMENTO PEAK Np CORONA 5303 Å

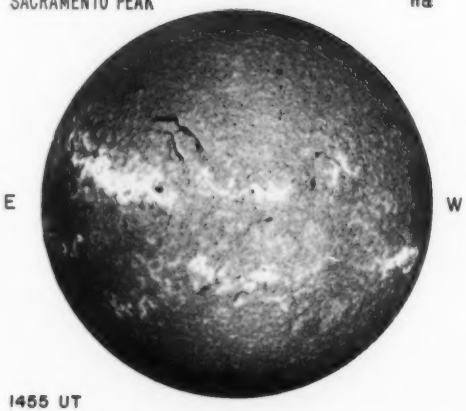
E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$



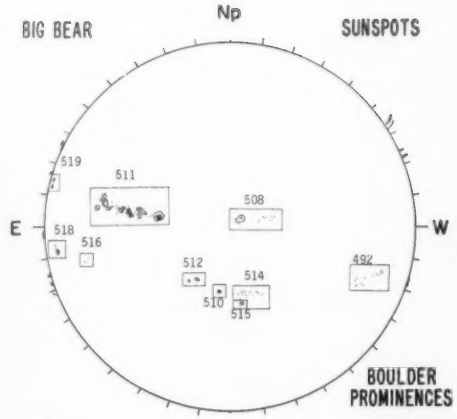
07

SACRAMENTO PEAK Hα




1455 UT

BIG BEAR SUNSPOTS




BOULDER PROMINENCES

1615 UT 1528 UT

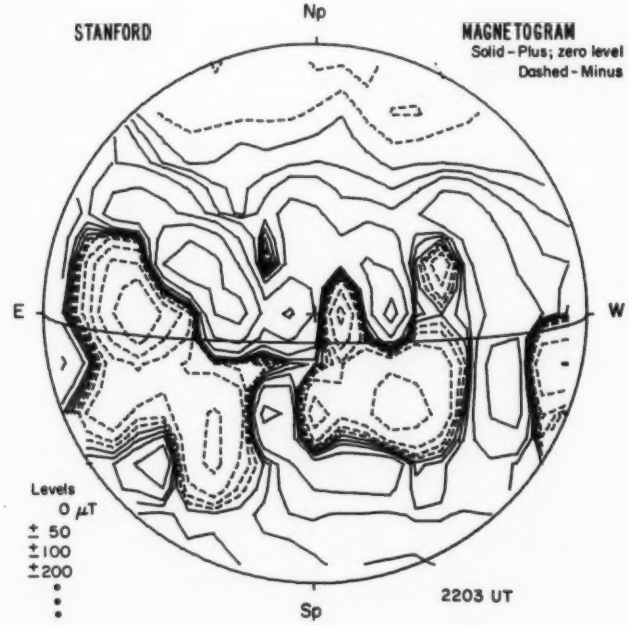
BIG BEAR ACTIVE REGIONS

92- 4200-3.5
95- 1200-2.5
08- 1500-3.0
09- 0600-2.5
10- 1200-2.5
11-13000-3.5
14- 0900-3.0

1846 UT

STANFORD MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus




2203 UT

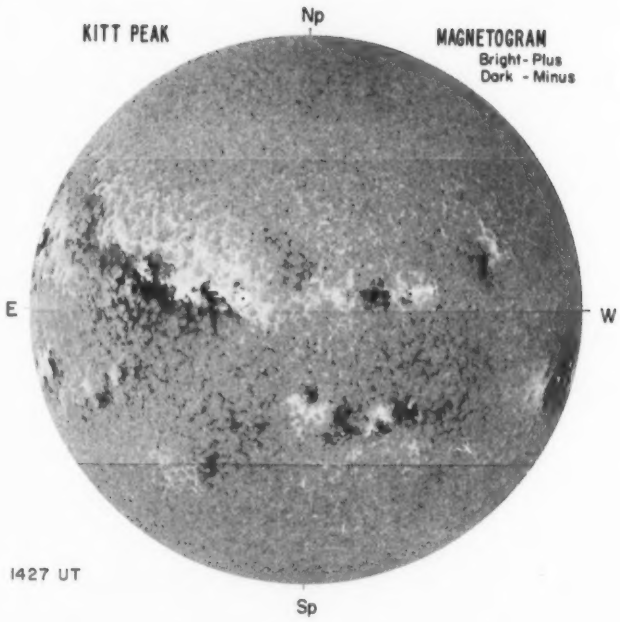
AUGUST 8, 1982 (P= 13.40, $B_o$ = 6.25, $L_o$ = 5.37)

SACRAMENTO PEAK Np CORONA 5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

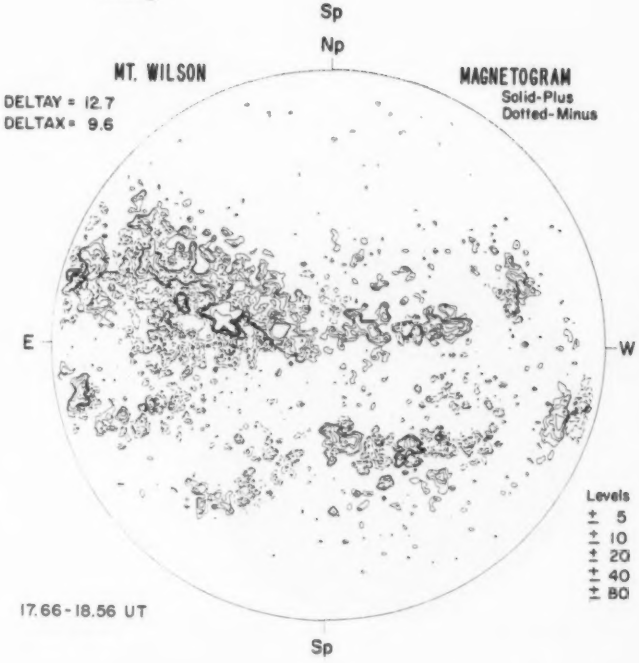
KITT PEAK




1427 UT

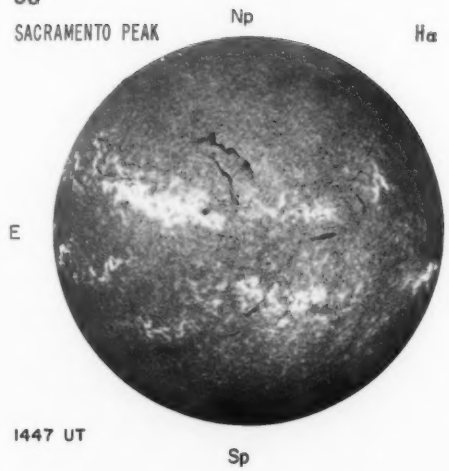
MT. WILSON

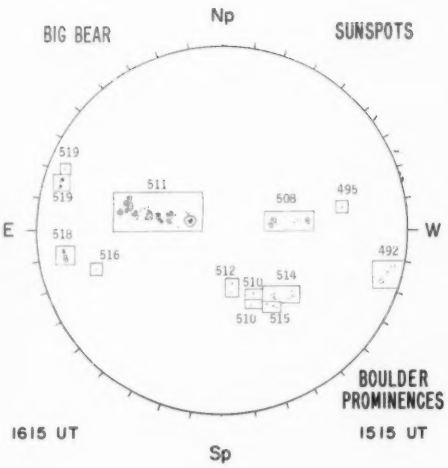
DELTAY = 12.7
DELTAX = 9.6

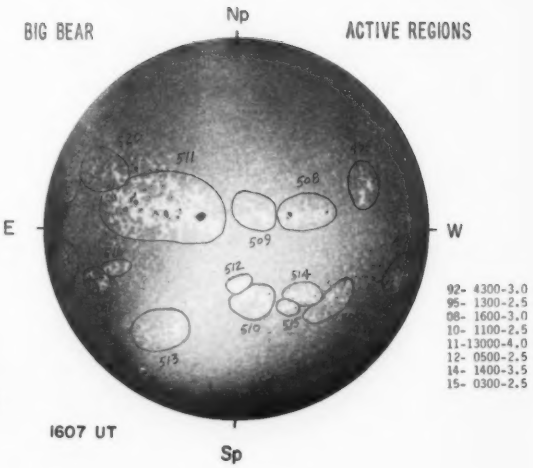


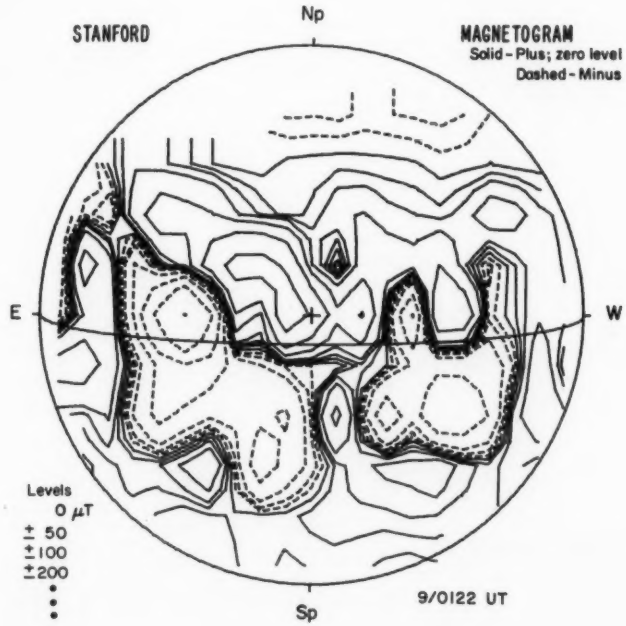

17.66 - 18.56 UT

08


SACRAMENTO PEAK
Np
Hα
E
W
Sp
1447 UT


BIG BEAR
Np
SUNSPOTS
519
519
511
518
516
508
495
492
512
510
514
510
515
E
W
BOULDER
PROMINENCES
1615 UT
1515 UT
Sp


BIG BEAR
Np
ACTIVE REGIONS
520
511
508
509
512
514
510
513
E
W
92- 4300-3.0
95- 1300-2.5
08- 1600-3.0
10- 1100-2.5
11-13000-4.0
12- 0500-2.5
14- 1400-3.5
15- 0300-2.5
1607 UT
Sp


STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Levels
0 μT
± 50
±100
±200
Sp
9/0122 UT

AUGUST 9, 1982 (P= 13.77, $B_o$= 6.31, $L_o$= 352.14)

SACRAMENTO PEAK Np CORONA 5303 Å

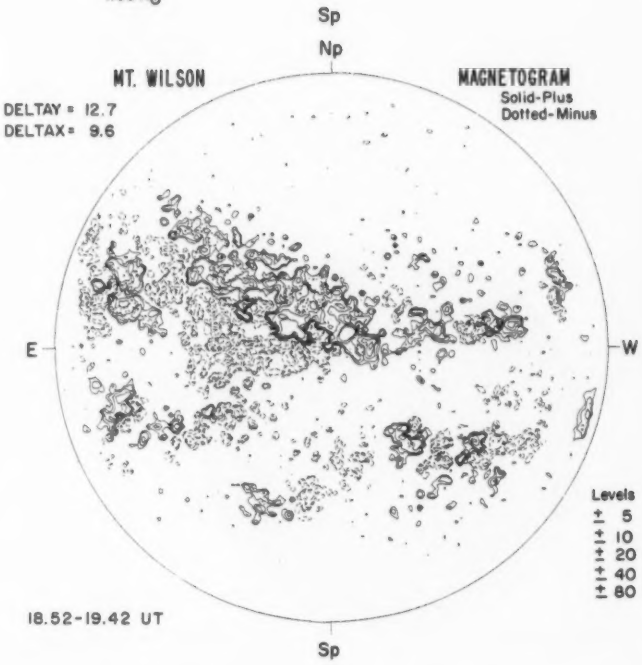
E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus

1546 UT

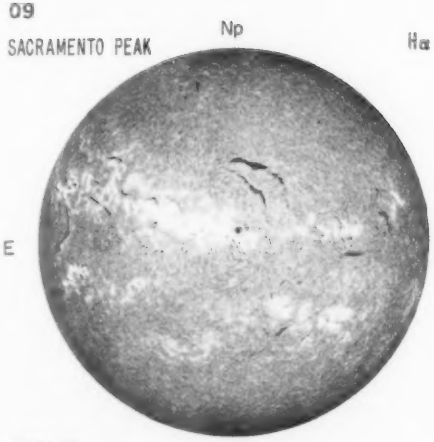
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.6




18.52-19.42 UT

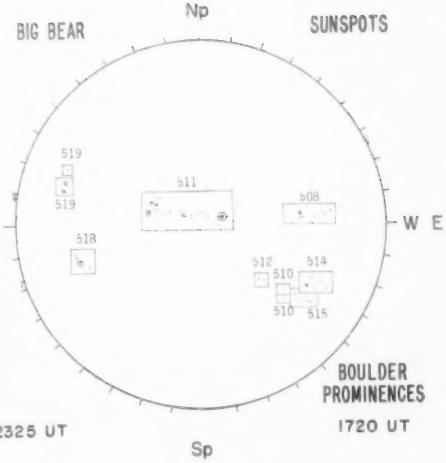
09

SACRAMENTO PEAK




1441 UT

BIG BEAR




SUNSPOTS

2325 UT

BOULDER PROMINENCES

1720 UT

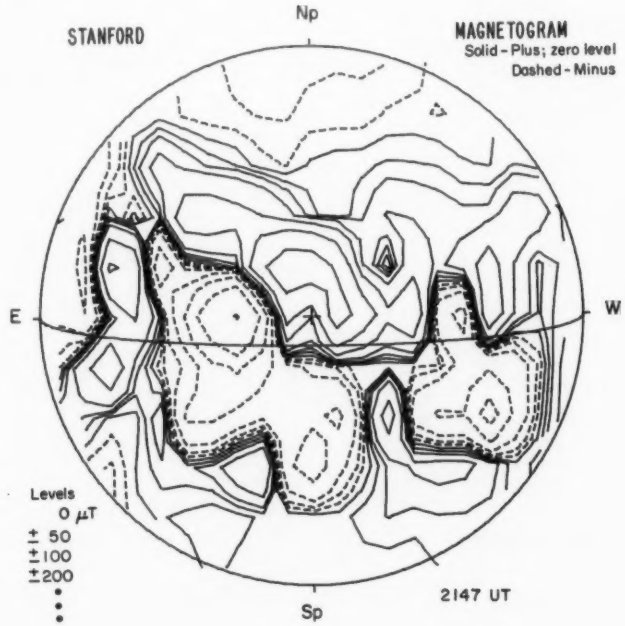
BIG BEAR

ACTIVE REGIONS

1444 UT

92- 3500-3.0
95- 1400-3.0
06- 7000-1.5
08- 2500-2.5
09- 0500-2.5
11-14000-4.0
12- 0600-3.0
14- 1700-2.5
16- 0700-2.5
17- 0700-2.5
18- 2500-3.0
19- 3800-3.0
20- 2700-2.5

STANFORD




MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

2147 UT

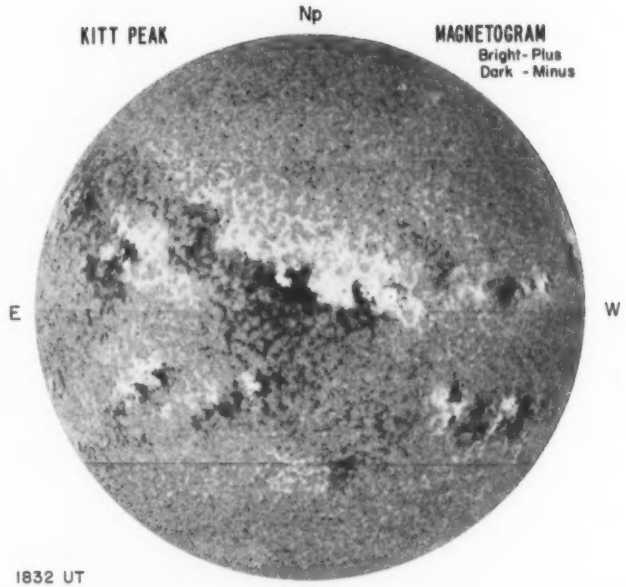
AUGUST 10, 1982 (P= 14.14, $B_o$= 6.37, $L_o$= 338.92)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

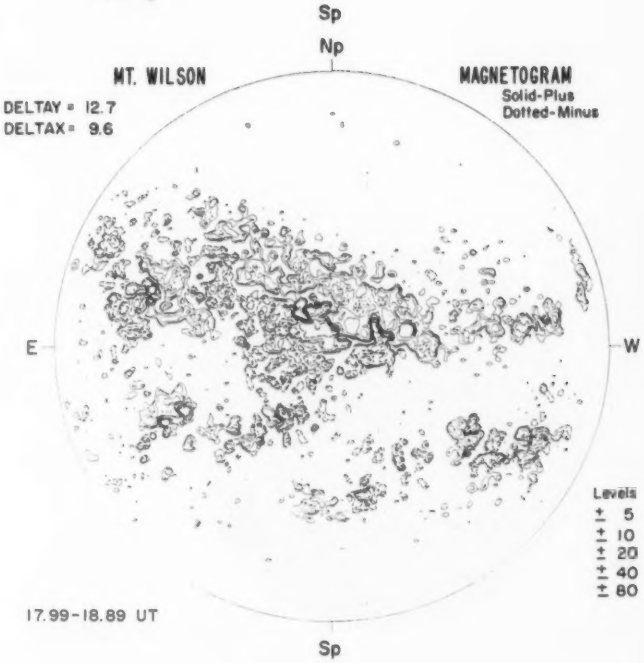
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus




1832 UT

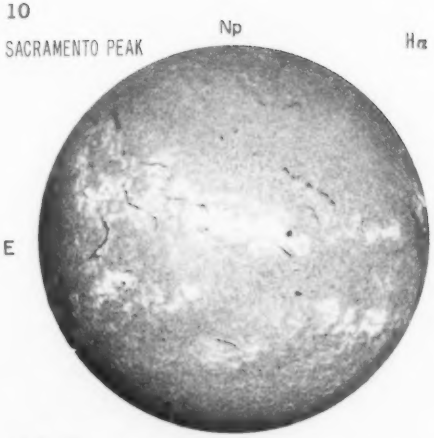
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.6




17.99-18.89 UT

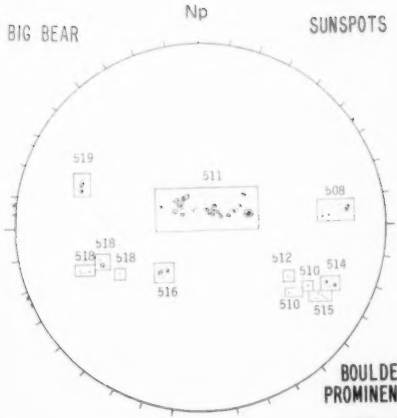
10

SACRAMENTO PEAK




1619 UT

BIG BEAR




SUNSPOTS

1625 UT

BIG BEAR

ACTIVE REGIONS

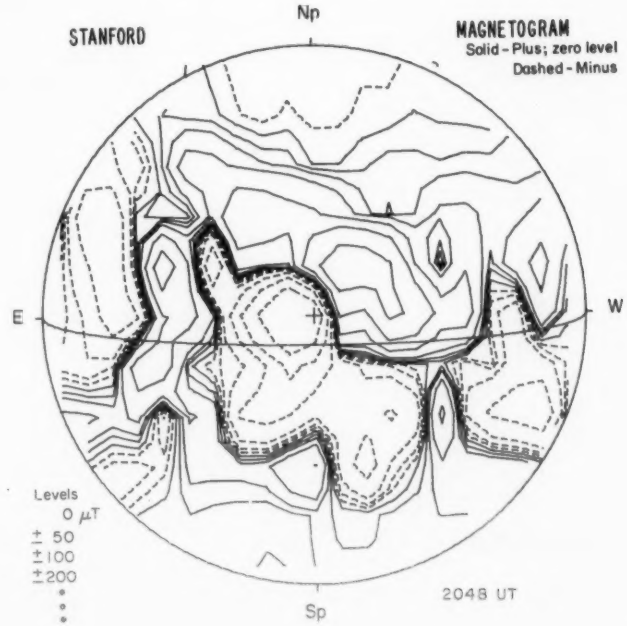
95- 1300-3.5
08- 2500-3.5
10- 1400-2.5
11-15000-4.5
12- 0500-2.5
14- 2000-3.0
15- 1000-3.0
16- 1000-3.0
17- 0600-2.5
18- 3000-3.5
19- 4000-3.0

1449 UT

BOULDER PROMINENCES

1625 UT

STANFORD




MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

2048 UT

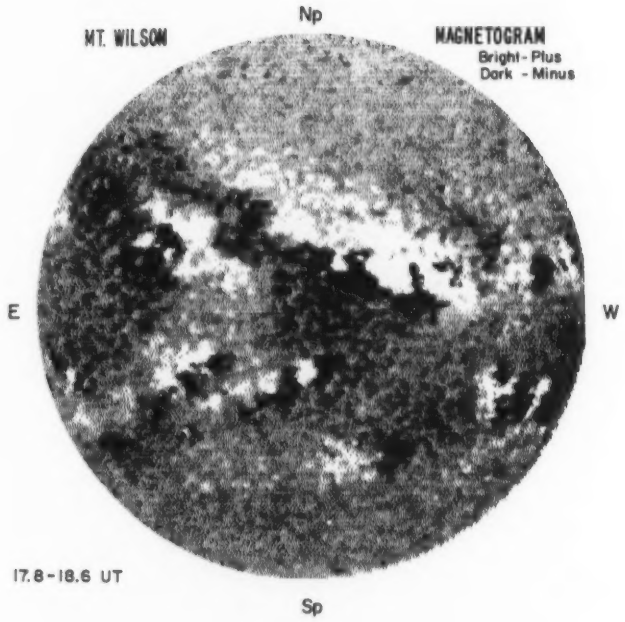
67
Aug 82

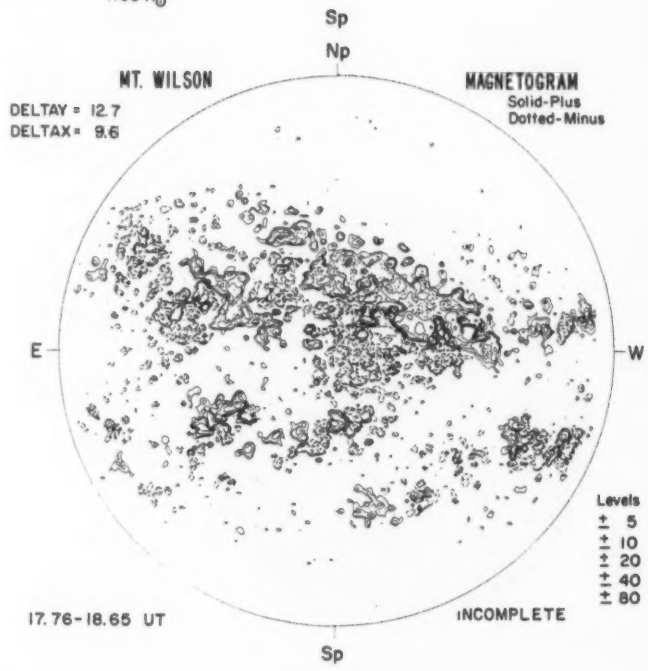
AUGUST 11, 1982 (P= 14.50, $B_o$= 6.43, $L_o$= 325.70)

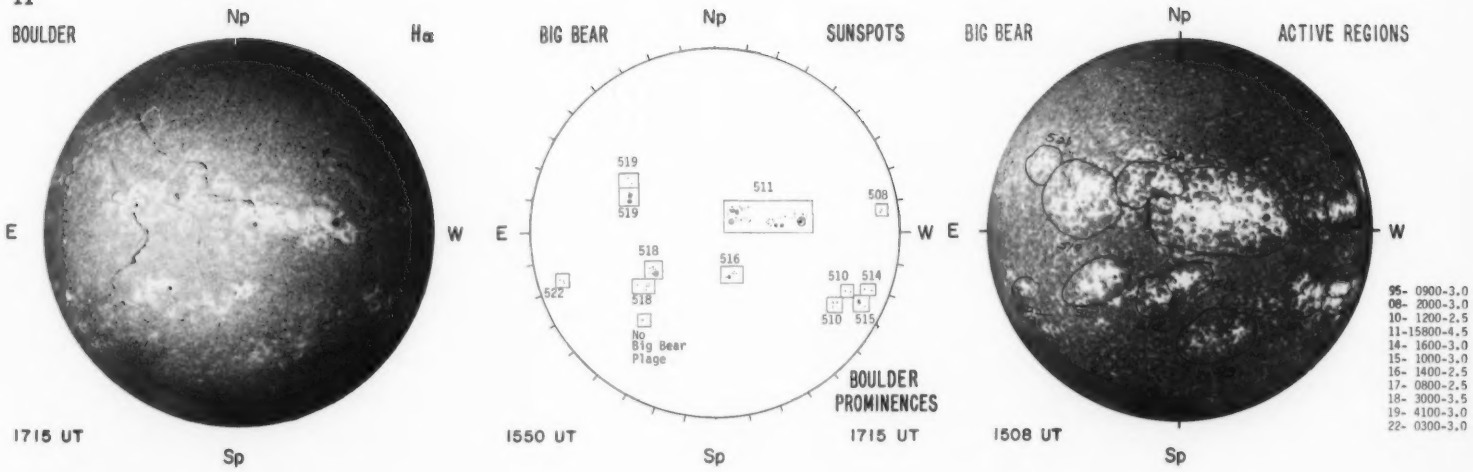
SACRAMENTO PEAK Np CORONA
5303 Å

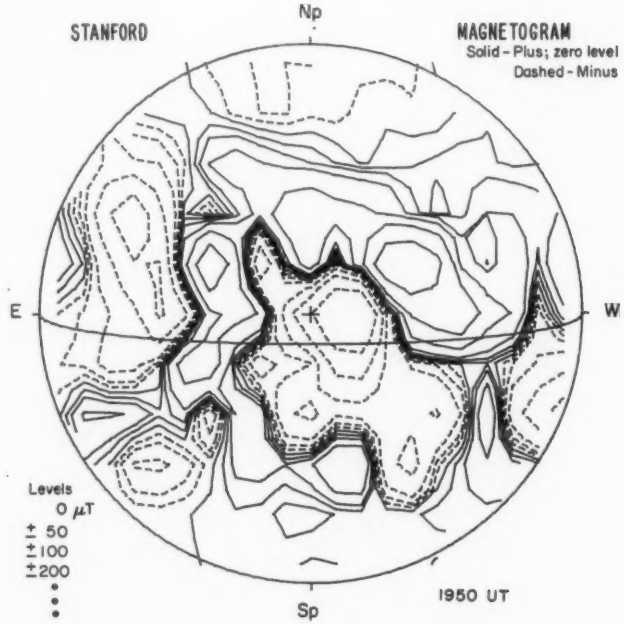
E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$




BOULDER
Np
Hα
E
W
Sp
1715 UT
BIG BEAR
Np
SUNSPOTS
519
519
511
508
518
516
522
518
510
514
510
515
No
Big Bear
Plage
E
W
Sp
1550 UT
BOULDER
PROMINENCES
1715 UT
BIG BEAR
Np
ACTIVE REGIONS
E
W
Sp
1508 UT
95- 0900-3.0
08- 2000-3.0
10- 1200-2.5
11-15800-4.5
14- 1600-3.0
15- 1000-3.0
16- 1400-2.5
17- 0800-2.5
18- 3000-3.5
19- 4100-3.0
22- 0300-3.0

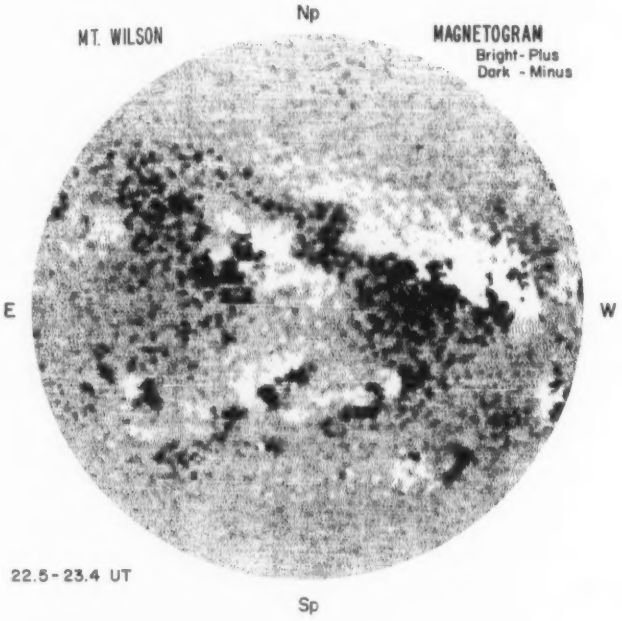

STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Levels
0 μT
± 50
±100
±200
Sp
1950 UT

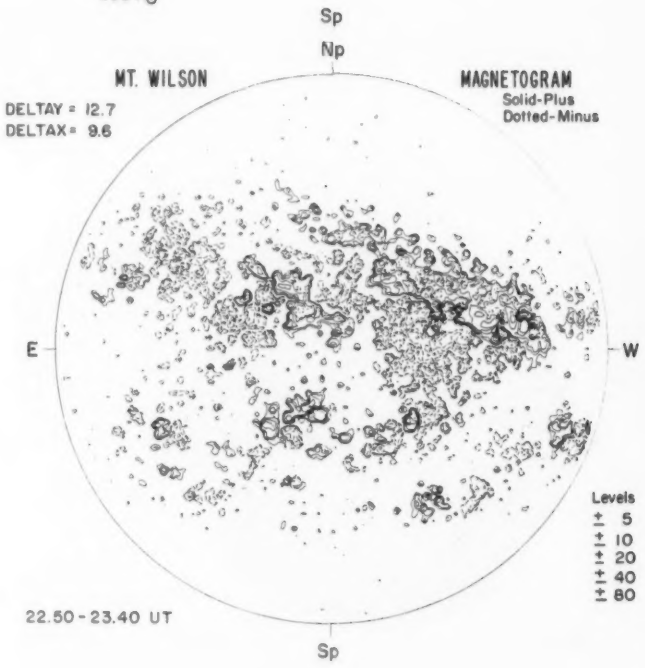
AUGUST 12, 1982 (P= 14.86, $B_o$= 6.48, $L_o$= 312.48)

SACRAMENTO PEAK Np CORONA
5303 Å

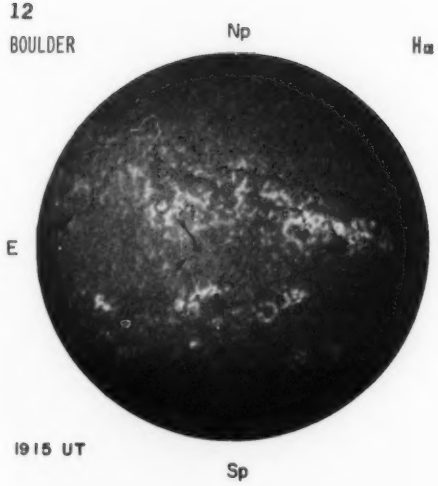
E NO DATA W

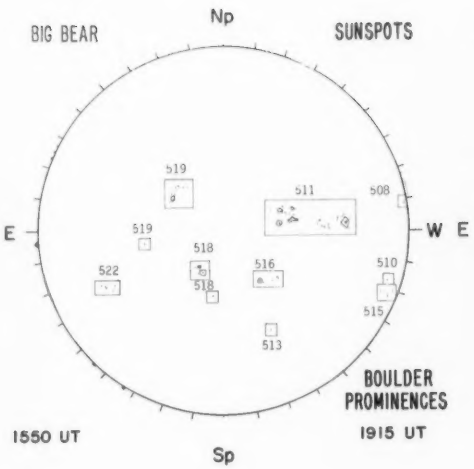
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

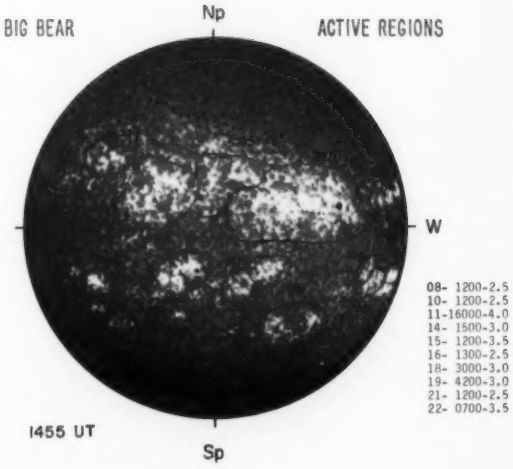


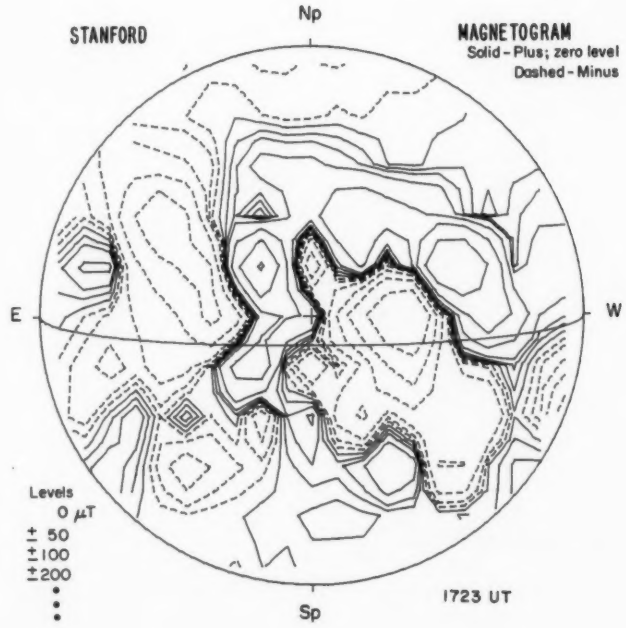



12


BOULDER
Np
Hα
E
W
Sp
1915 UT


BIG BEAR
Np
SUNSPOTS
519
511
508
519
518
516
522
518
510
515
513
E
W
BOULDER
PROMINENCES
1550 UT
1915 UT
Sp


BIG BEAR
Np
ACTIVE REGIONS
E
W
08- 1200-2.5
10- 1200-2.5
11-16000-4.0
14- 1500-3.0
15- 1200-3.5
16- 1300-2.5
18- 3000-3.0
19- 4200-3.0
21- 1200-2.5
22- 0700-3.5
1455 UT
Sp


STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Levels
0 μT
± 50
±100
±200
1723 UT
Sp

AUGUST 13, 1982 (P= 15.21, $B_o$ = 6.54, $L_o$ = 299.26)

SACRAMENTO PEAK Np CORONA
5303 Å

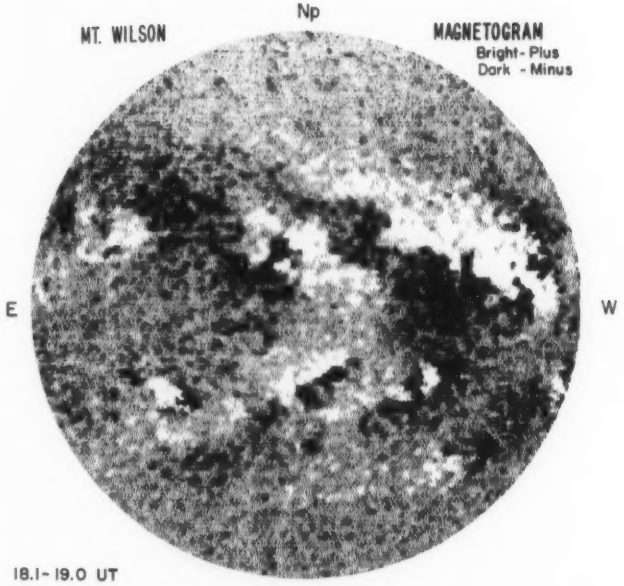
E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

MT. WILSON MAGNETOGRAM
Bright - Plus
Dark - Minus



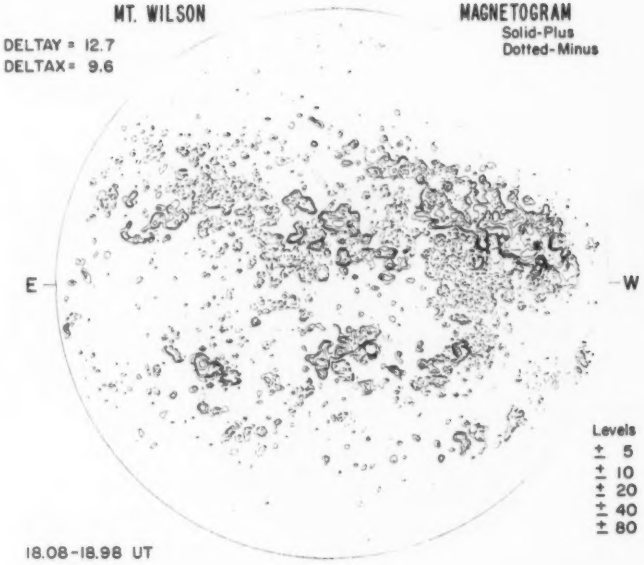
E W

18.1 - 19.0 UT

Sp

MT. WILSON MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTAY = 12.7
DELTAX = 9.6



E W

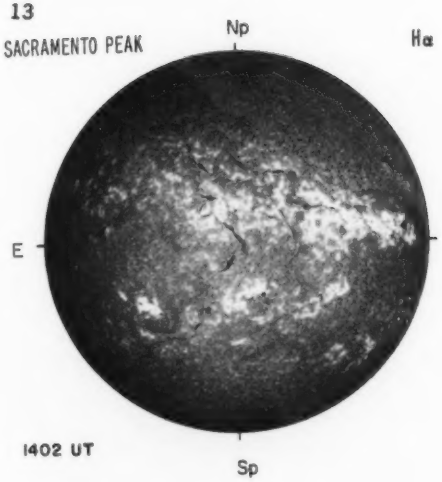
Levels
± 5
± 10
± 20
± 40
± 80

18.08 - 18.98 UT

Sp

13

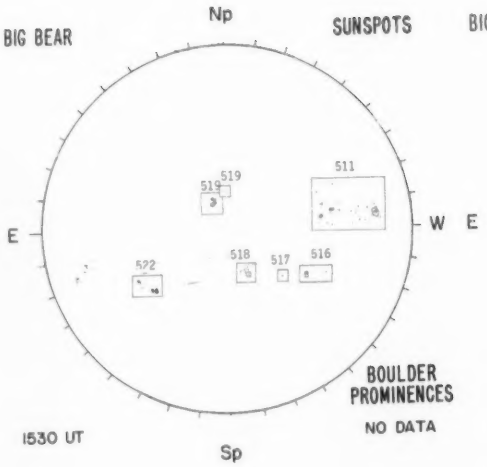
SACRAMENTO PEAK




1402 UT

Hα

BIG BEAR




1530 UT

SUNSPOTS

BIG BEAR

BOULDER PROMINENCES

NO DATA

Np

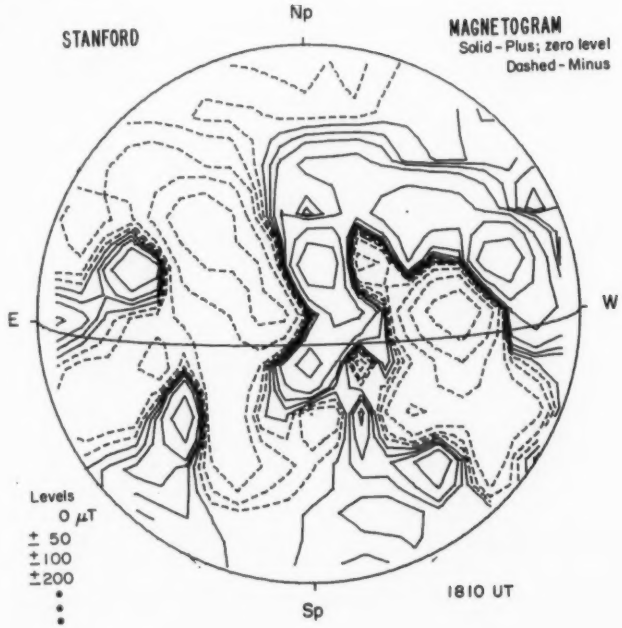
ACTIVE REGIONS

NO DATA

W

Sp

STANFORD




MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

1810 UT

73

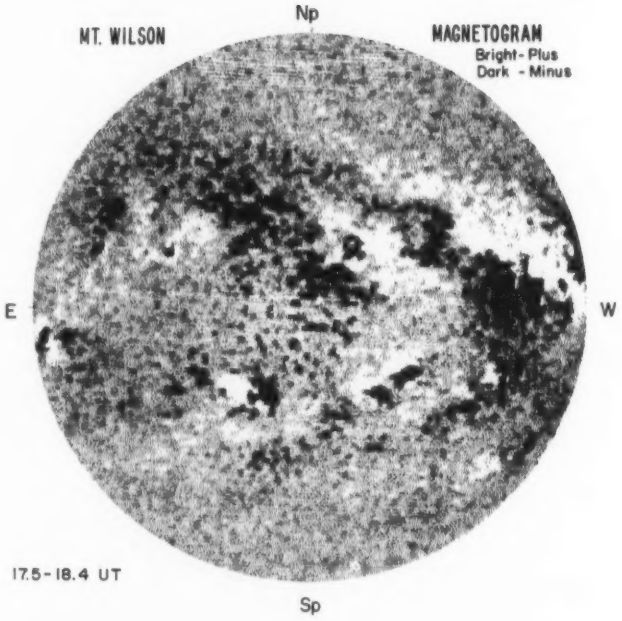
Aug 82

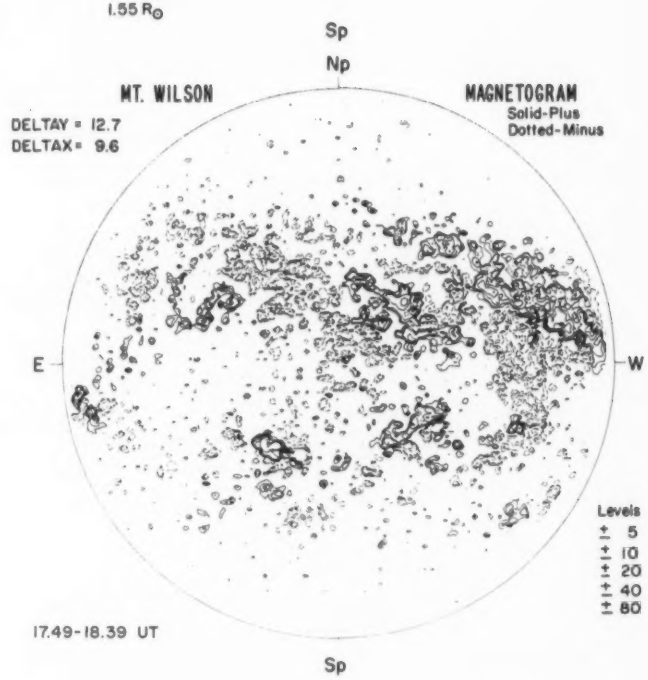
AUGUST 14, 1982 (P= 15.56, $B_o$= 6.59, $L_o$= 286.04)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

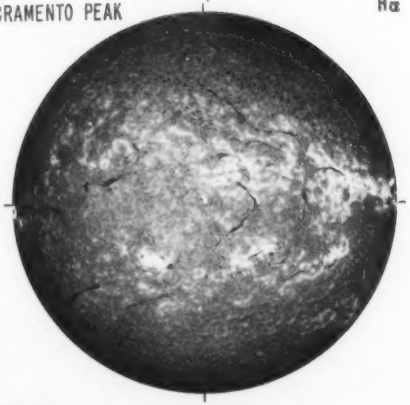
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$



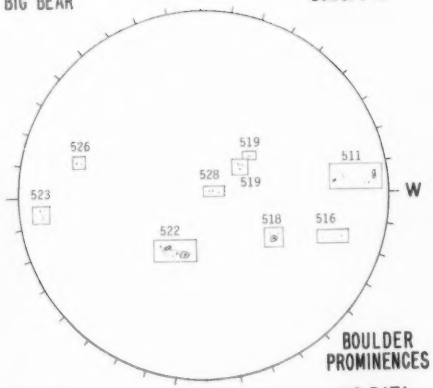
14

SACRAMENTO PEAK Np Hα




1516 UT

BIG BEAR Np SUNSPOTS

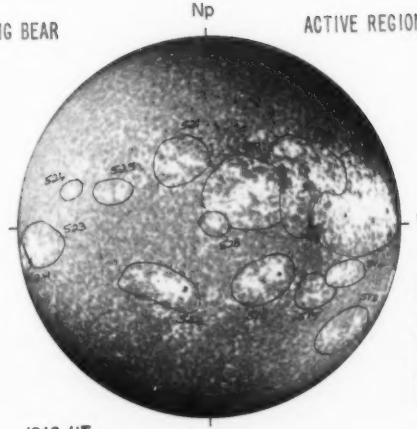



2010 UT

BOULDER PROMINENCES

NO DATA

BIG BEAR Np ACTIVE REGIONS

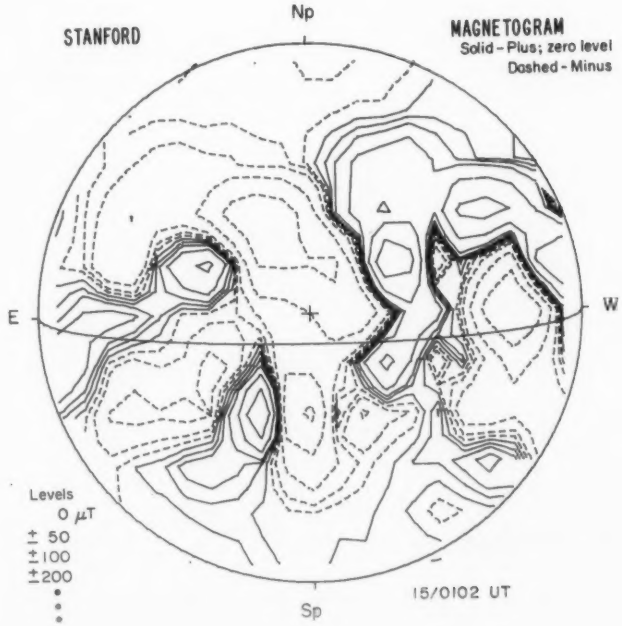



1916 UT

11-16000-4.0
16- 1600-2.5
18- 3000-3.0
19- 4000-3.5
20- 2500-2.5
21- 1800-2.5
22- 2000-4.0
23- 1800-3.5
24- 0300-3.0
28- 0700-3.0

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus




Levels
0 μT
± 50
±100
±200

15/0102 UT

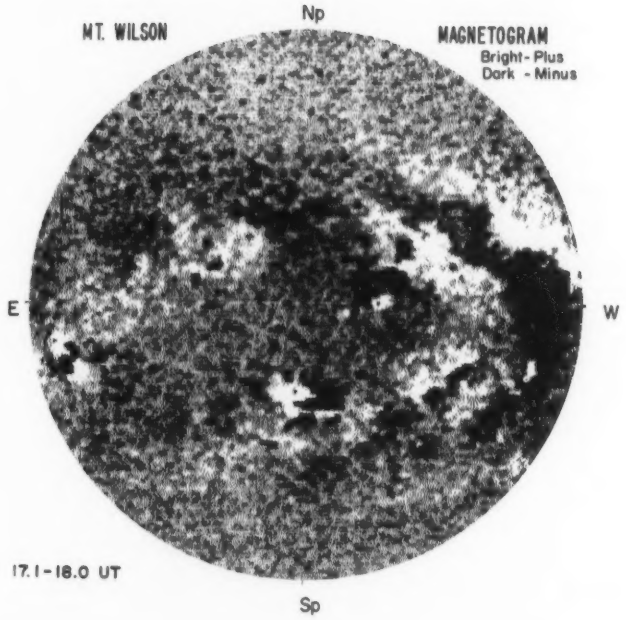
75
Aug 82

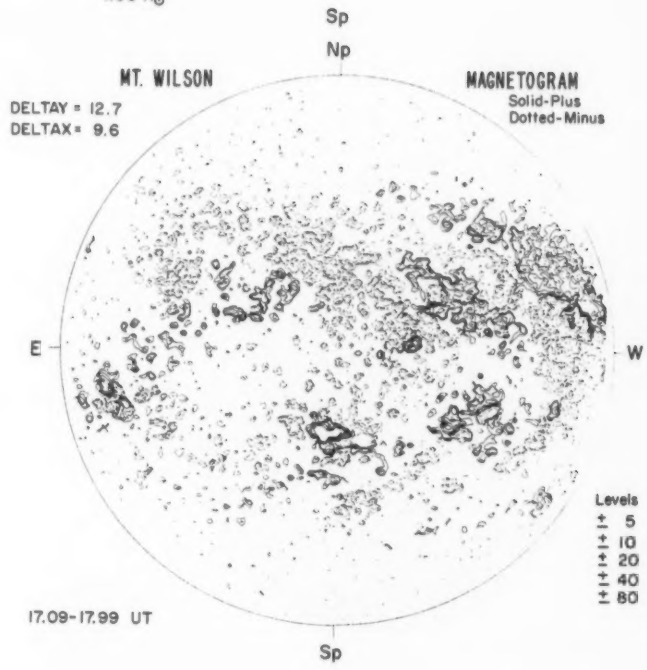
AUGUST 15, 1982 (P= 15.90, $B_o$= 6.64, $L_o$= 272.82)

SACRAMENTO PEAK Np CORONA
5303 Å

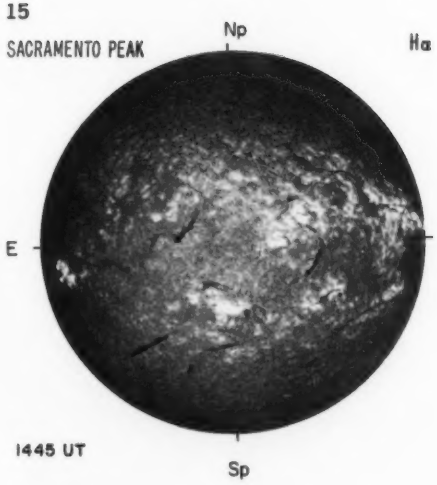
E NO DATA W

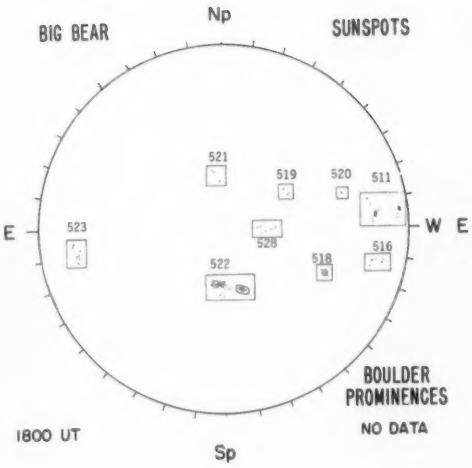
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

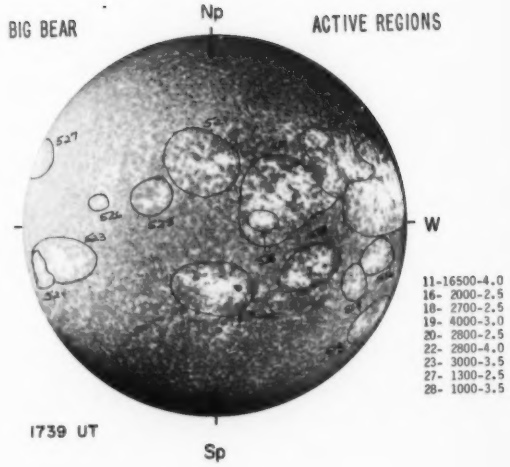


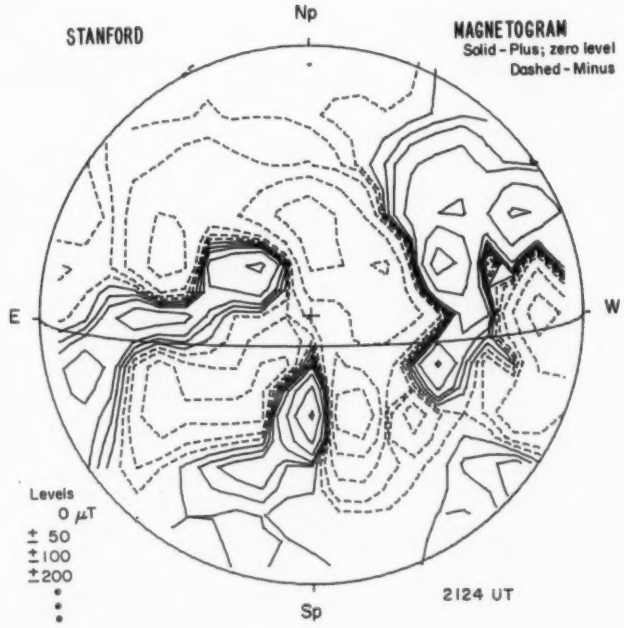



15


SACRAMENTO PEAK
Hα
Np
E
W
Sp
1445 UT


BIG BEAR
SUNSPOTS
Np
521
519
520
511
523
528
516
518
522
E
W E
BOULDER
PROMINENCES
NO DATA
1800 UT
Sp


BIG BEAR
ACTIVE REGIONS
Np
527
E
W
11-16500-4.0
16- 2000-2.5
18- 2700-2.5
19- 4000-3.0
20- 2800-2.5
22- 2800-4.0
23- 3000-3.5
27- 1300-2.5
28- 1000-3.5
1739 UT
Sp


STANFORD
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
Np
E
W
Levels
0 μT
± 50
±100
±200
2124 UT
Sp

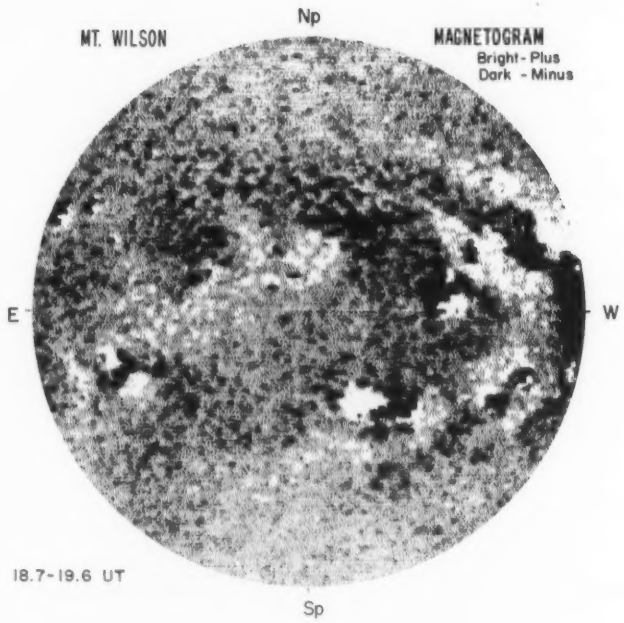
77
Aug 82

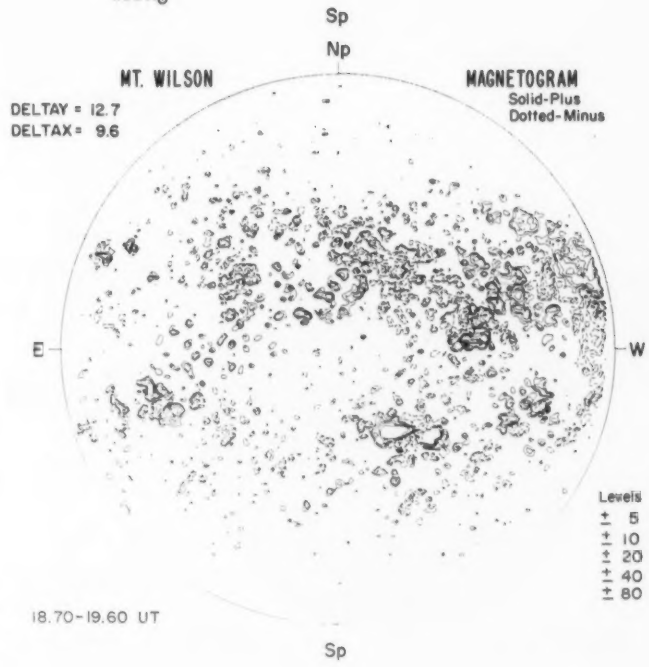
AUGUST 16, 1982 (P= 16.24, $B_o$= 6.69, $L_o$= 259.61)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

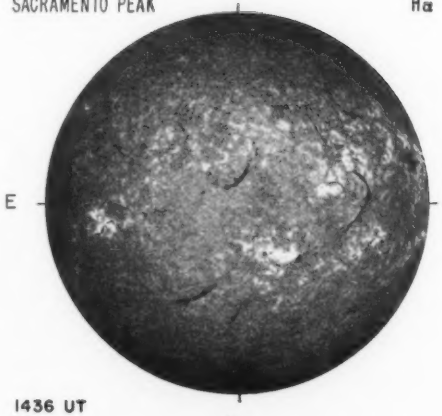
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$



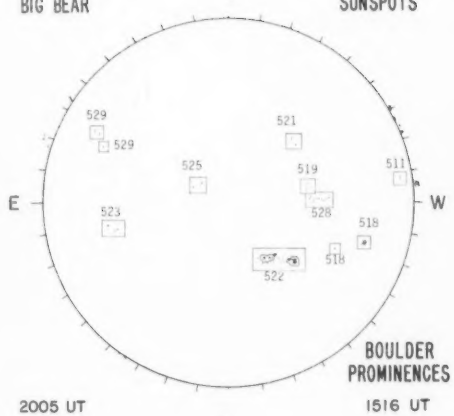
16

SACRAMENTO PEAK Hα



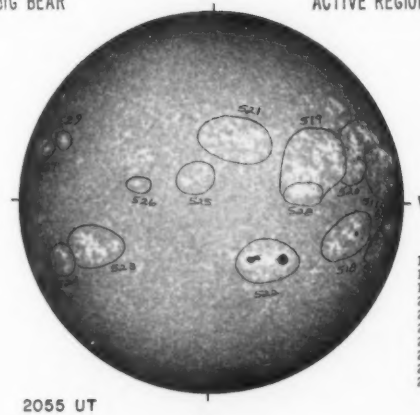

1436 UT

BIG BEAR SUNSPOTS




2005 UT

BIG BEAR ACTIVE REGIONS



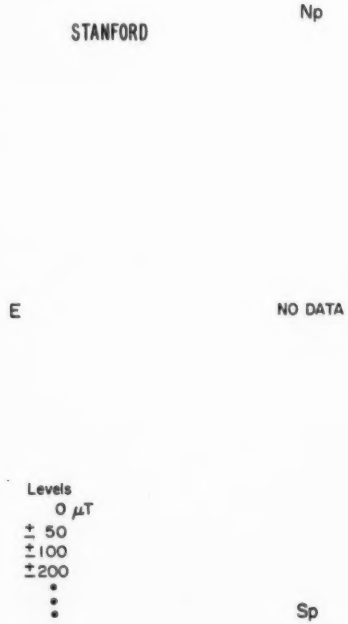

2055 UT

11- 4000-3.0
18- 1800-3.0
19- 3800-2.5
20- 2000-2.5
21- 1800-2.5
22- 2500-3.0
23- 2500-3.0
27- 1000-2.5
28- 1200-3.5
29- 0500-3.0

BOULDER PROMINENCES

1516 UT

STANFORD




MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

Levels
0 μT
± 50
±±100
±±200
•
••
•

79
Aug 82

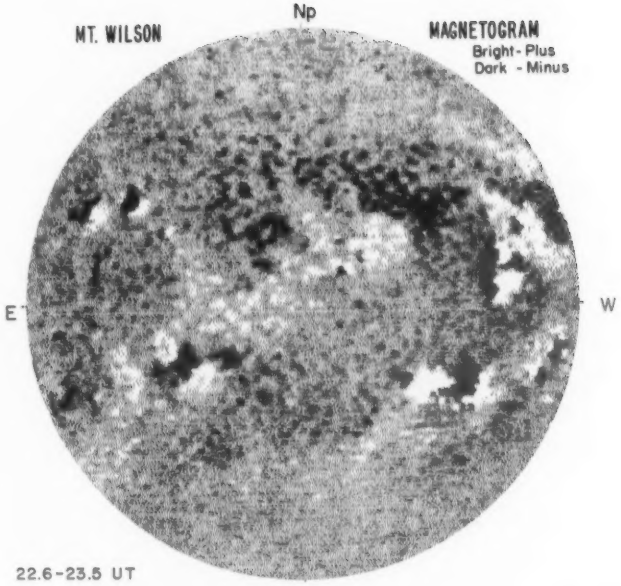
AUGUST 17, 1982 (P= 16.58, $B_o$= 6.73, $L_o$= 246.39)

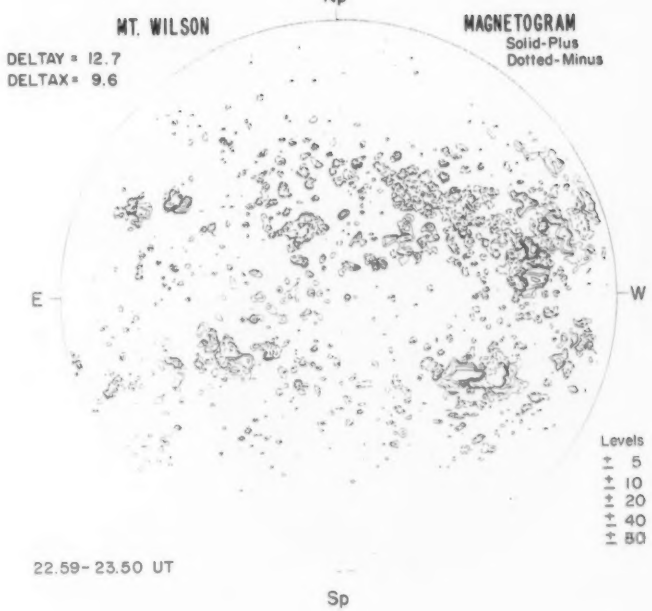
SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

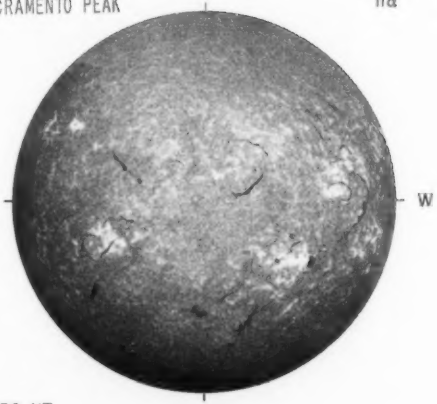
Sp



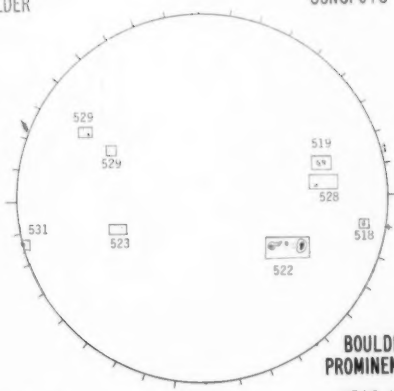
17

SACRAMENTO PEAK Hα




1436 UT

BOULDER SUNSPOTS




1446 UT

BOULDER PROMINENCES

1516 UT

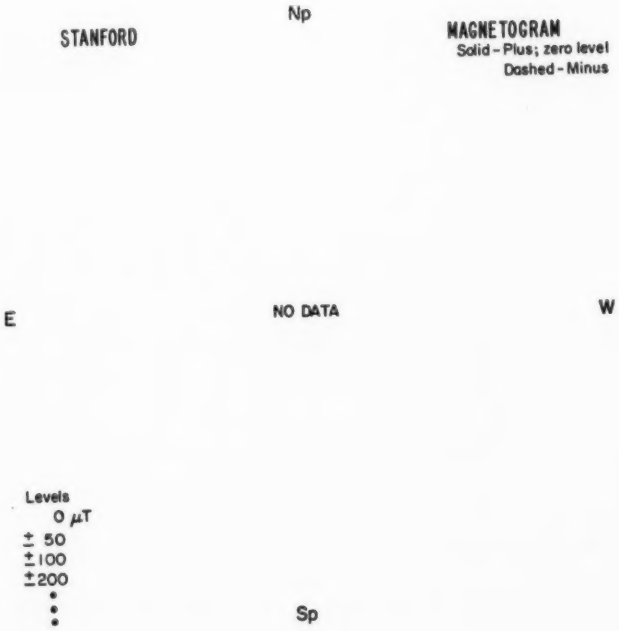
BIG BEAR ACTIVE REGIONS

1802 UT

11- 2500-3.0
18- 1500-2.5
21- 1800-2.5
22- 2800-3.5
23- 2500-3.0
27- 1400-3.0
29- 0600-4.0
30- 1200-3.5
31- 1500-3.5

STANFORD MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus




Levels
0 μT
± 50
±100
±200

81
Aug 82

AUGUST 18, 1982 (P= 16.91, $B_o$= 6.78, $L_o$= 233.17)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

KITT PEAK Np MAGNETOGRAM
Bright- Plus
Dark - Minus

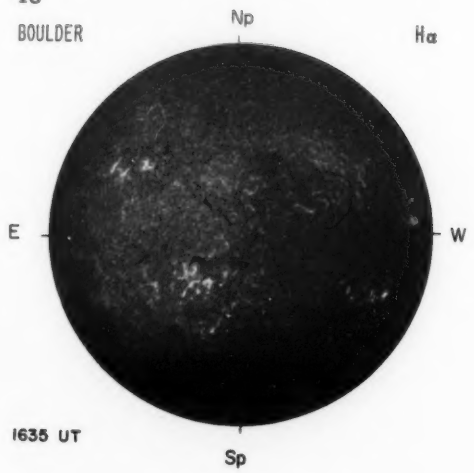
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

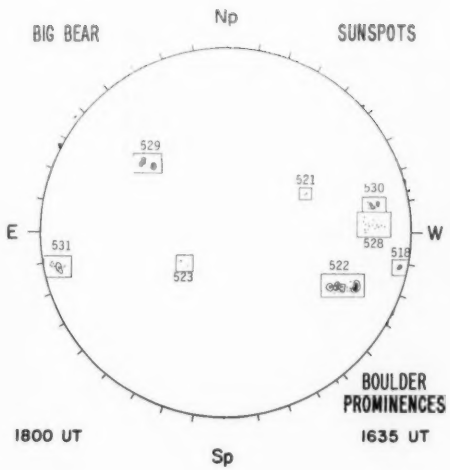
DELTAY =
DELTAX =

E NO DATA AUGUST 18, 24, 26 W E NO DATA W

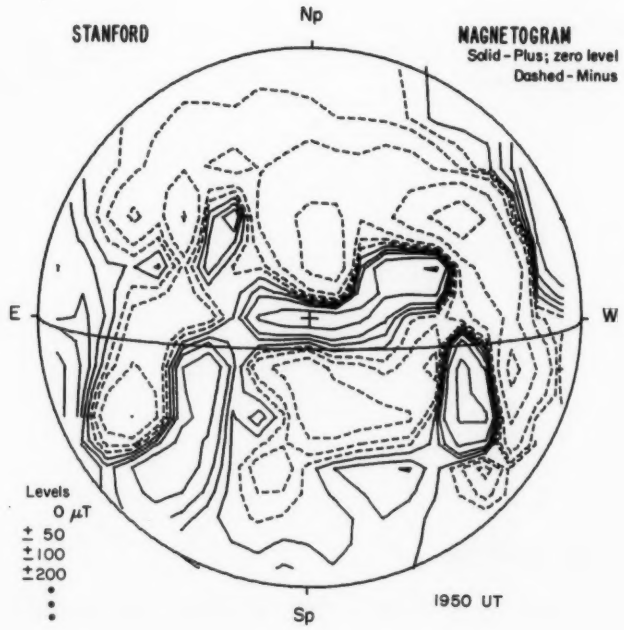
Levels
± 5
± ± 10
± ± 20
± ± 40
± ± 80

Sp Sp


BOULDER
Np
Hα
E
W
Sp
1635 UT


BIG BEAR
Np
SUNSPOTS
529
521
530
528
531
523
522
518
E
W
BOULDER
PROMINENCES
1800 UT
Sp
1635 UT

BIG BEAR
Np
ACTIVE REGIONS
E
W
19- 1000-2.5
22- 3700-3.5
23- 2000-2.5
27- 0500-2.5
28- 1100-3.0
29- 1000-3.0
30- 1300-2.5
31- 4000-4.0
2340 UT
Sp

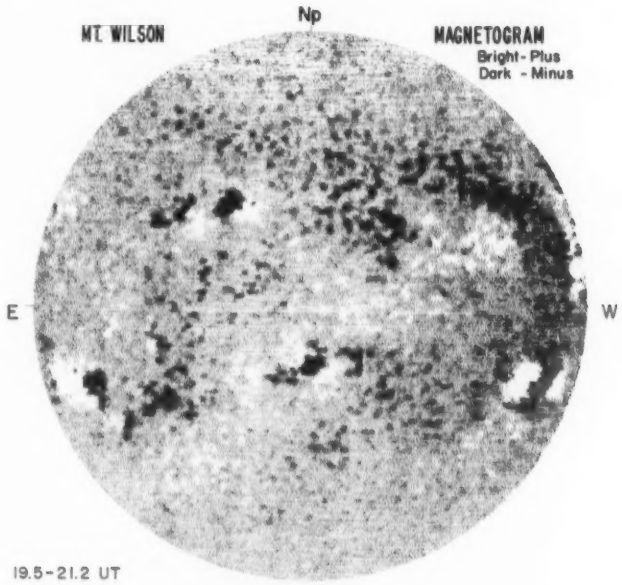

STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Levels
0 μT
± 50
±100
±200
Sp
1950 UT

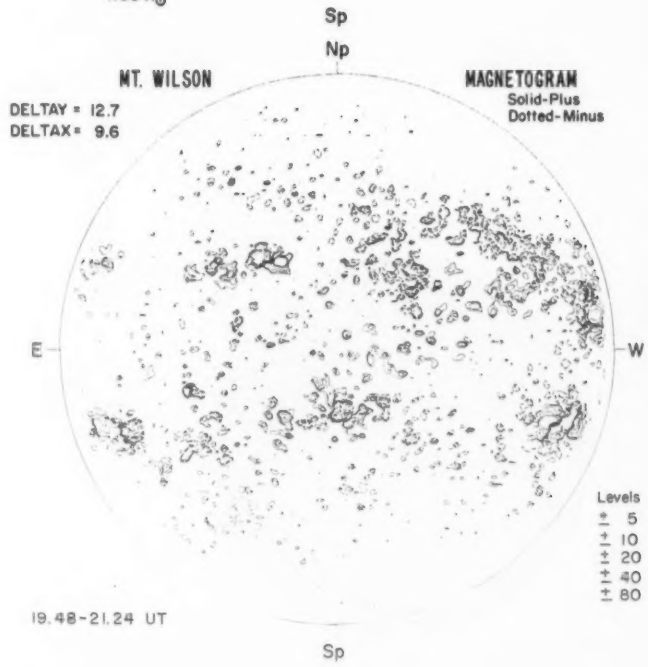
AUGUST 19, 1982 (P= 17.24, $B_o$= 6.82, $L_o$= 219.95)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$



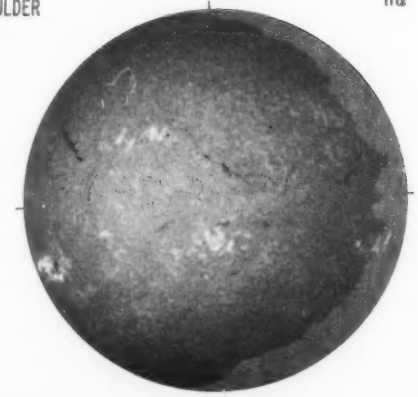



19

BOULDER

Np

Hα



E W

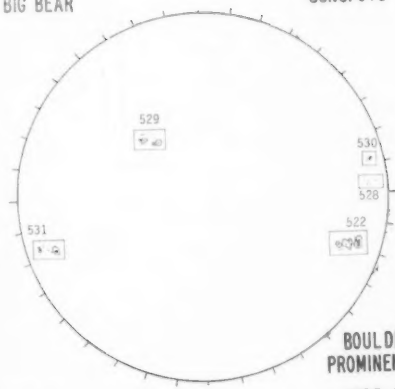
1725 UT

Sp

BIG BEAR

Np

SUNSPOTS




E W

BOULDER PROMINENCES

1630 UT

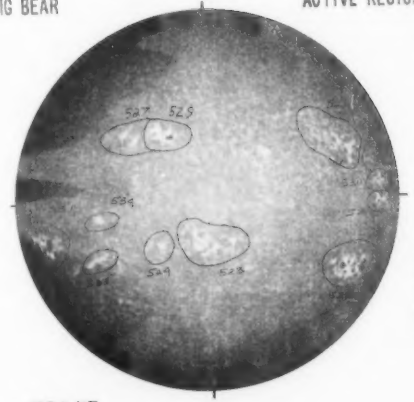
1725 UT

Sp

BIG BEAR

Np

ACTIVE REGIONS




E W

21- 2000-2.5
22- 4000-4.0
23- 1700-2.5
28- 1200-3.5
29- 1700-3.5
30- 1500-3.0
31- 4000-4.0

1824 UT

Sp

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

E

NO DATA

W

Levels

0 μT

± 50

±100

±200

•

•

•

Sp

85

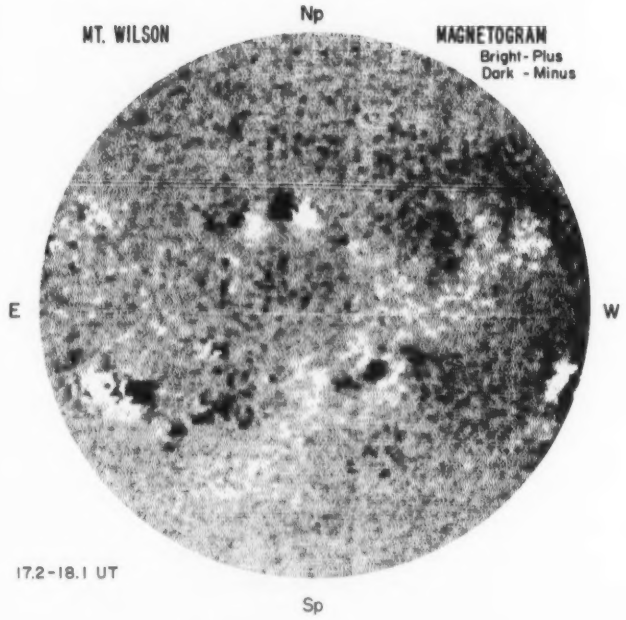
Aug 82

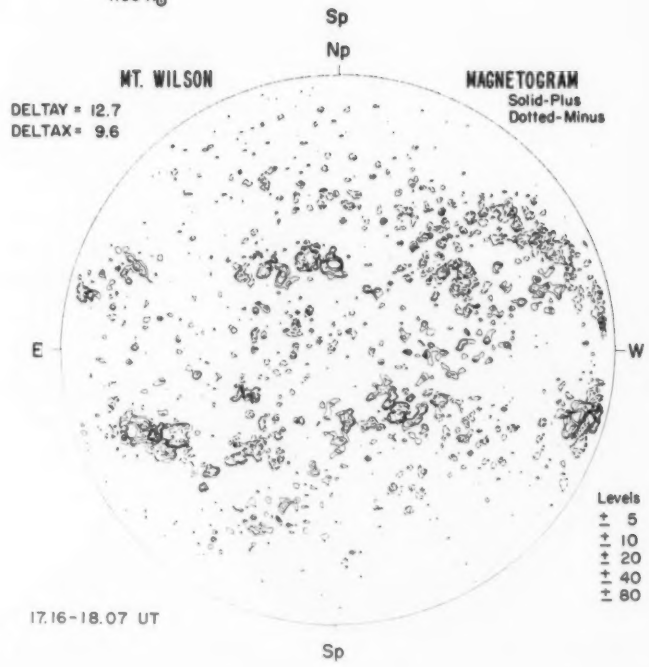
AUGUST 20, 1982 (P= 17.56, $B_o$ = 6.86, $L_o$ = 206.74)

SACRAMENTO PEAK Np CORONA 5303 Å

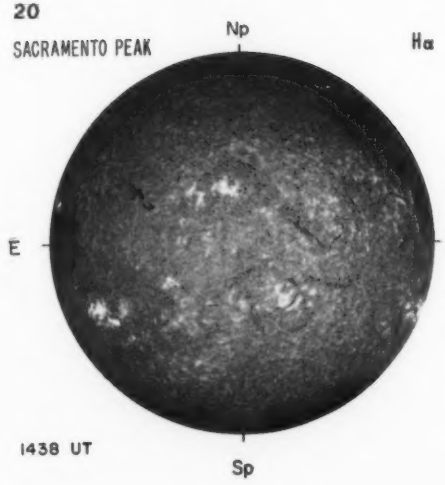
E NO DATA W

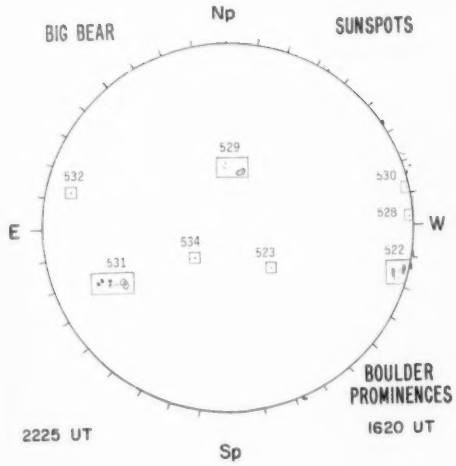
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

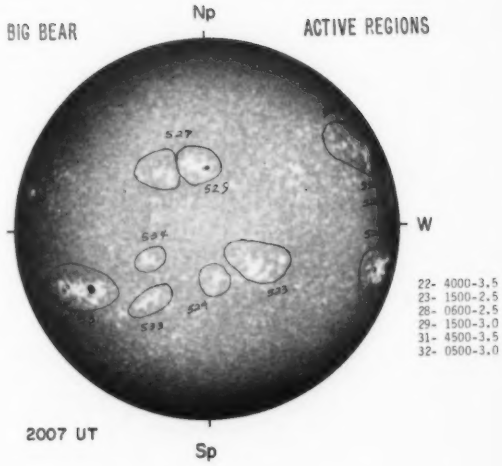


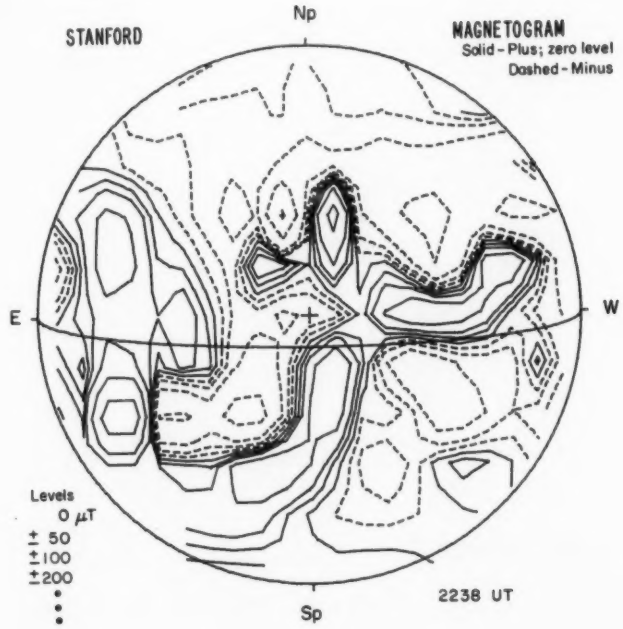



20


SACRAMENTO PEAK
Np
Hα
E
W
Sp
1438 UT


BIG BEAR
Np
SUNSPOTS
529
532
530
528
534
523
531
522
W E
E
BOULDER
PROMINENCES
2225 UT
1620 UT
Sp


BIG BEAR
Np
ACTIVE REGIONS
527
525
524
523
529
W
22- 4000-3.5
23- 1500-2.5
28- 0600-2.5
29- 1500-3.0
31- 4500-3.5
32- 0500-3.0
2007 UT
Sp


STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Levels
0 μT
± 50
±100
±200
2238 UT
Sp

AUGUST 21, 1982 (P= 17.87, $B_o$= 6.90, $L_o$= 193.52)

SACRAMENTO PEAK Np CORONA
5303 Å

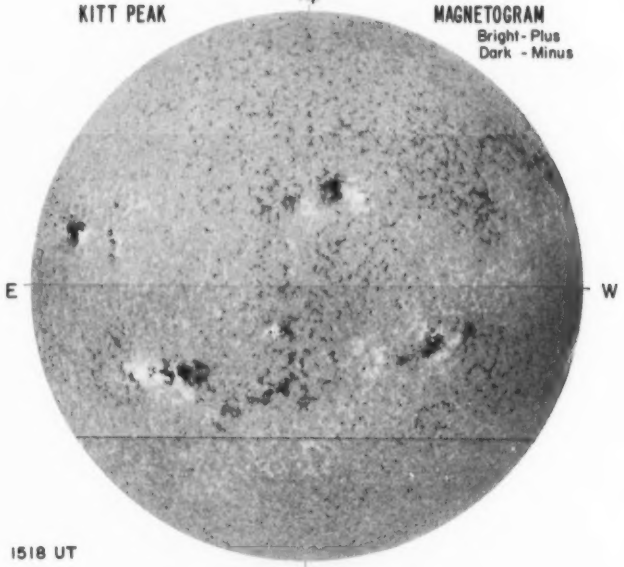
E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus

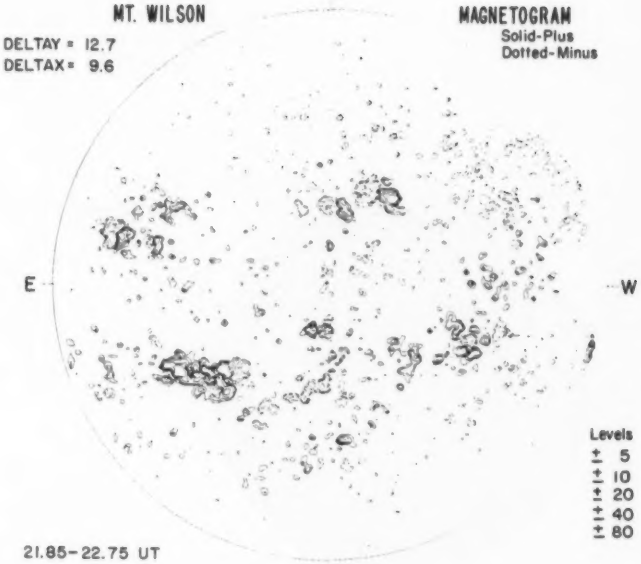



1518 UT

Sp

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

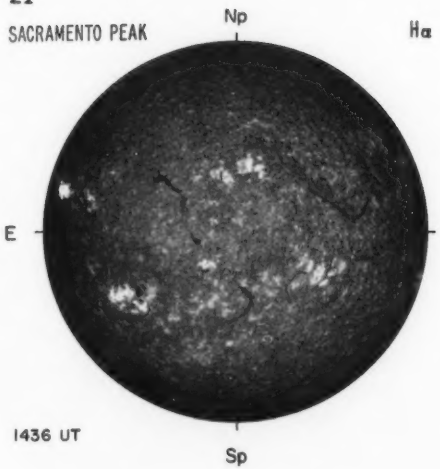
DELTAY = 12.7
DELTAX = 9.6




21.85-22.75 UT

Sp

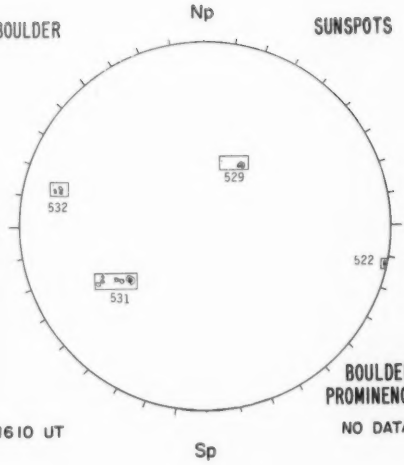
SACRAMENTO PEAK




1436 UT

Hα

BOULDER




1610 UT

SUNSPOTS

BOULDER PROMINENCES

NO DATA

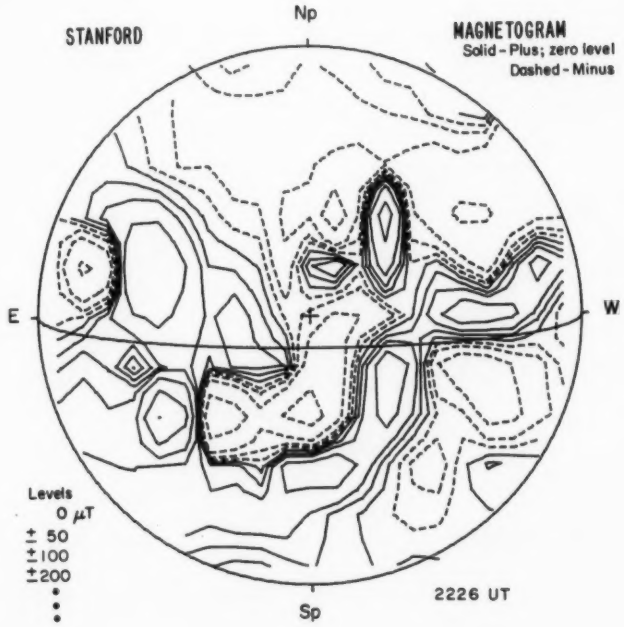
BIG BEAR

2233 UT

ACTIVE REGIONS

22- 3000-3.5
23- 1400-2.5
29- 2000-3.0
31- 4000-4.0
32- 1800-3.5
34- 0700-2.5

STANFORD




MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

2226 UT

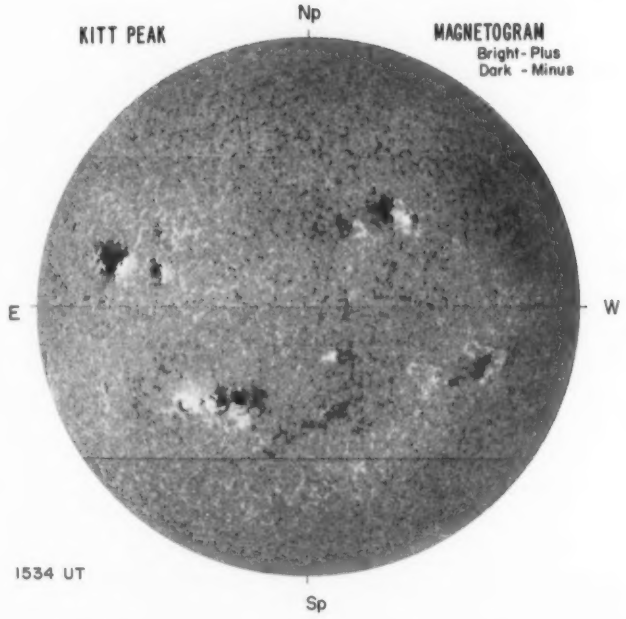
AUGUST 22, 1982 (P= 18.18, $B_o$= 6.93, $L_o$= 180.31)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

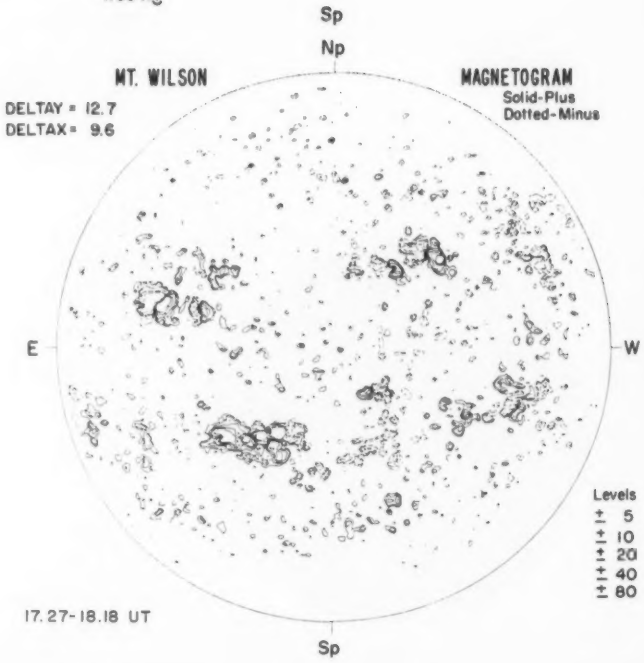
KITT PEAK




MAGNETOGRAM
Bright - Plus
Dark - Minus

1534 UT

MT. WILSON



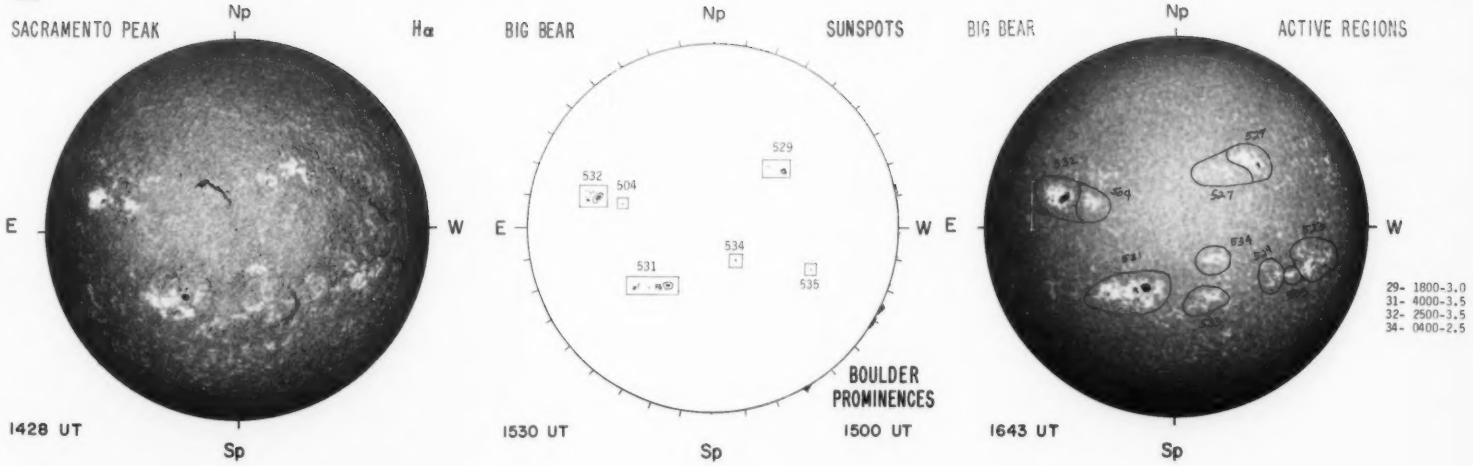

DELTAY = 12.7
DELTAX = 9.6

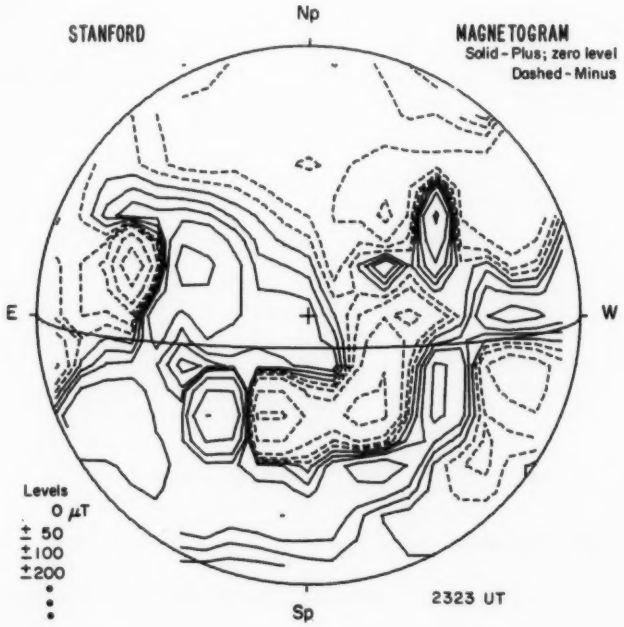
MAGNETOGRAM
Solid-Plus
Dotted-Minus

Levels
± 5
± 10
± 20
± 40
± 80

17.27-18.18 UT

22


SACRAMENTO PEAK
Np
Hα
E
W
Sp
1428 UT
BIG BEAR
Np
SUNSPOTS
532
504
529
534
531
535
E
W
BOULDER
PROMINENCES
1530 UT
Sp
1500 UT
BIG BEAR
Np
ACTIVE REGIONS
E
W
29- 1800-3.0
31- 4000-3.5
32- 2500-3.5
34- 0400-2.5
1643 UT
Sp

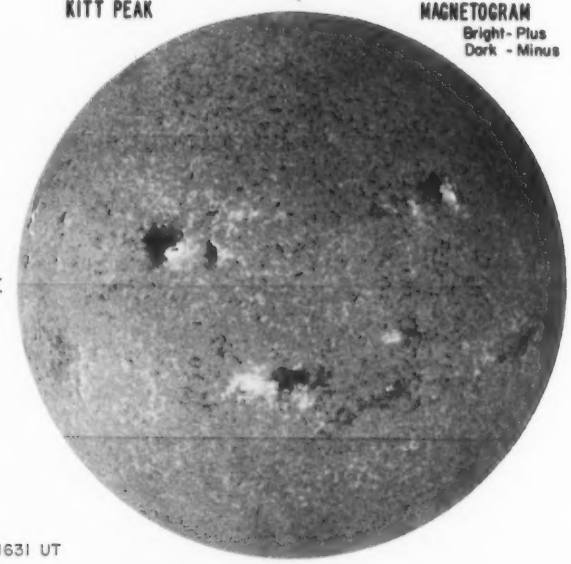

STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Levels
0 μT
± 50
±100
±200
Sp
2323 UT

AUGUST 23, 1982 (P= 18.49, $B_o$ = 6.97, $L_o$ = 167.10)

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus



E

W

1631 UT

Sp

SACRAMENTO PEAK

Np

CORONA
5303 Å

E

NO DATA

W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E

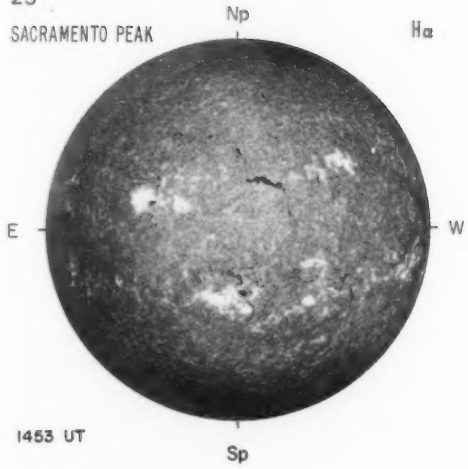
NO DATA

W

Levels
± 5
± ± 10
± ± 20
± ± ± 40
± ± ± 80

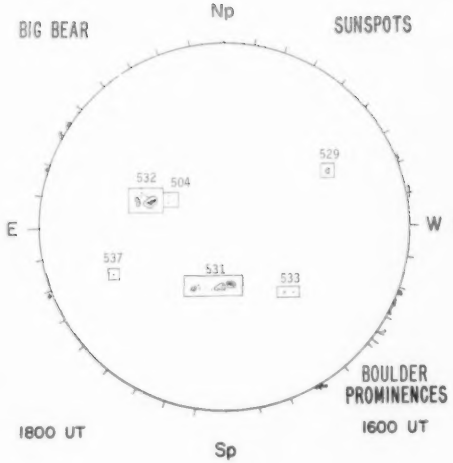
Sp

SACRAMENTO PEAK Hα




1453 UT

BIG BEAR SUNSPOTS




1800 UT

BOULDER PROMINENCES

1600 UT

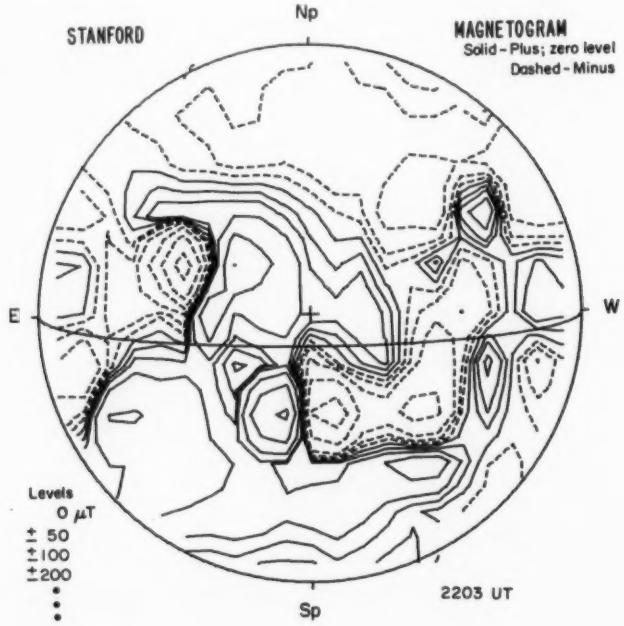
BIG BEAR ACTIVE REGIONS

1602 UT

04- 0600-2.6
29- 1800-3.0
31- 3100-3.5
32- 2800-3.5
33- 0500-3.6

STANFORD MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus




2203 UT

AUGUST 24, 1982 (P= 18.79, $B_o$ = 7.00, $L_o$ = 153.88)

SACRAMENTO PEAK Np CORONA 5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp
Np

KITT PEAK Np MAGNETOGRAM Bright - Plus Dark - Minus

MT. WILSON MAGNETOGRAM Solid - Plus Dotted - Minus

DELTAY =
DELTAX =

E NO DATA W E NO DATA W

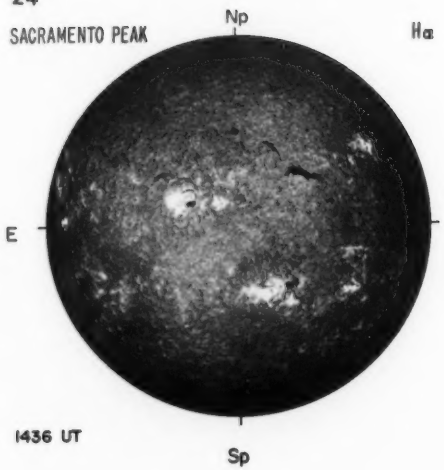
Levels
± 5
± 10
± 20
± 40
± 80

Sp Sp

24

24

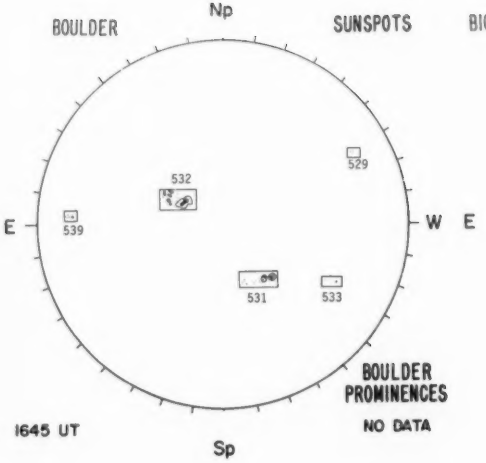
SACRAMENTO PEAK




1436 UT

Hα

BOULDER




1645 UT

SUNSPOTS

BOULDER PROMINENCES

NO DATA

BIG BEAR

Np

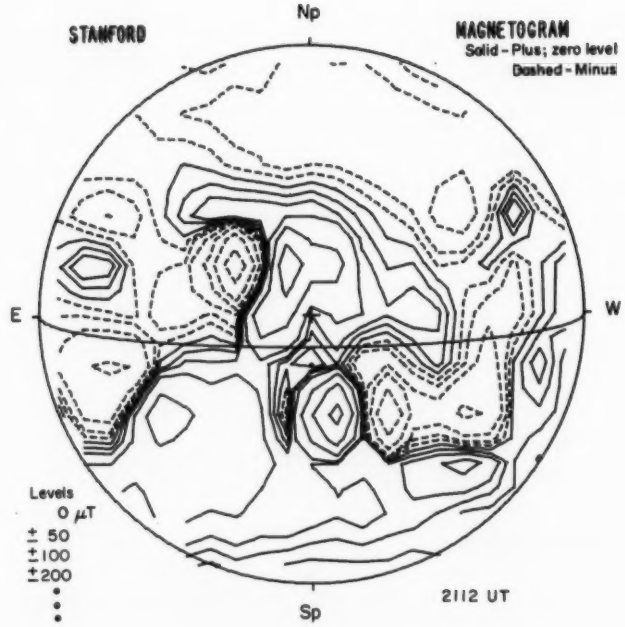
NO DATA

W

Sp

ACTIVE REGIONS

STANFORD




2112 UT

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

95

Aug 82

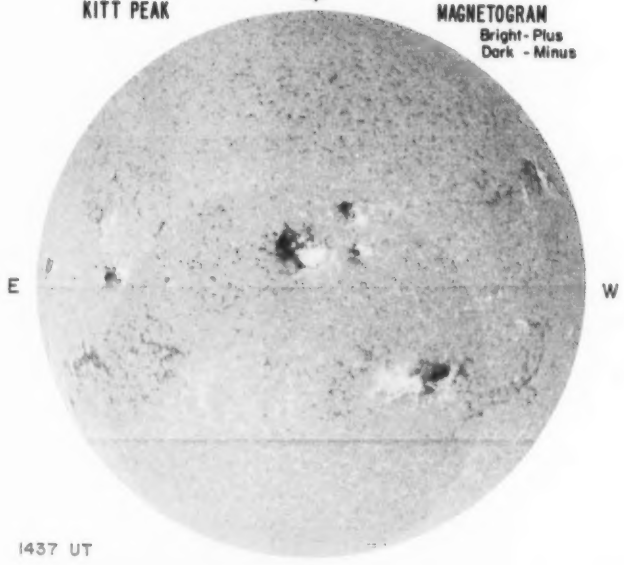
AUGUST 25, 1982 (P= 19.09, $B_o$= 7.03, $L_o$= 140.67)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



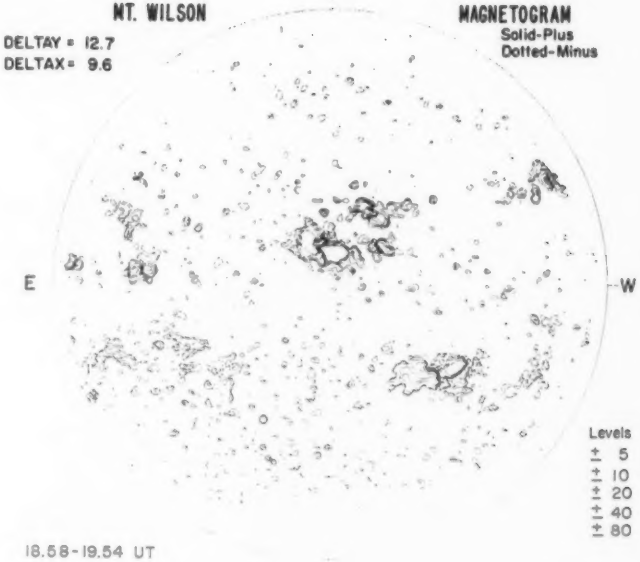

1437 UT

Sp

Sp
Np

NT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.7
DELTAX = 9.6

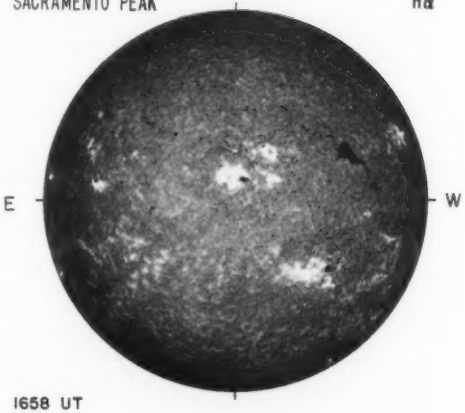



18.58-19.54 UT

Sp

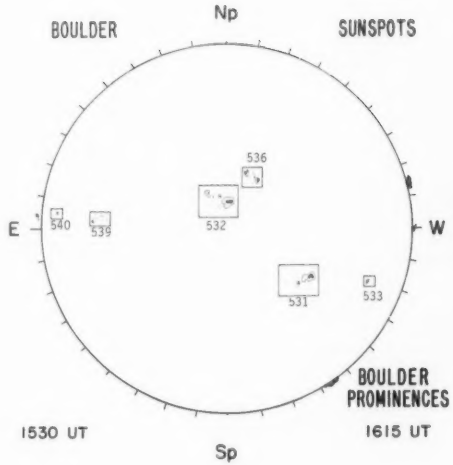
25

SACRAMENTO PEAK




1658 UT

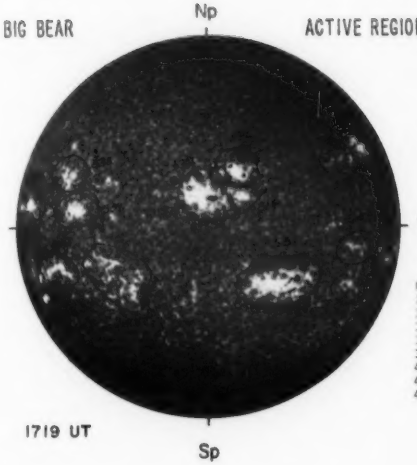
BOULDER




1530 UT

1615 UT

BIG BEAR




1719 UT

04- 0500-2.5
29- 1400-3.0
31- 3600-3.5
32- 3200-3.5
36- 1100-3.5
39- 1300-3.5
40- 1000-3.5
41- 1100-2.5
43- 0500-2.5

STANFORD

Np

MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

E

NO DATA

W

Levels
0 μT
± 50
±100
±200

Sp

97
Aug 82

AUGUST 26, 1982 (P= 19.38, $B_o$= 7.06, $L_o$= 127.46)

SACRAMENTO PEAK

Np

CORONA
5303 Å

E

NO DATA

W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

MT WILSON

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY =
DELTAX =

MAGNETOGRAM
Solid - Plus
Dotted - Minus

E

NO DATA

W

E

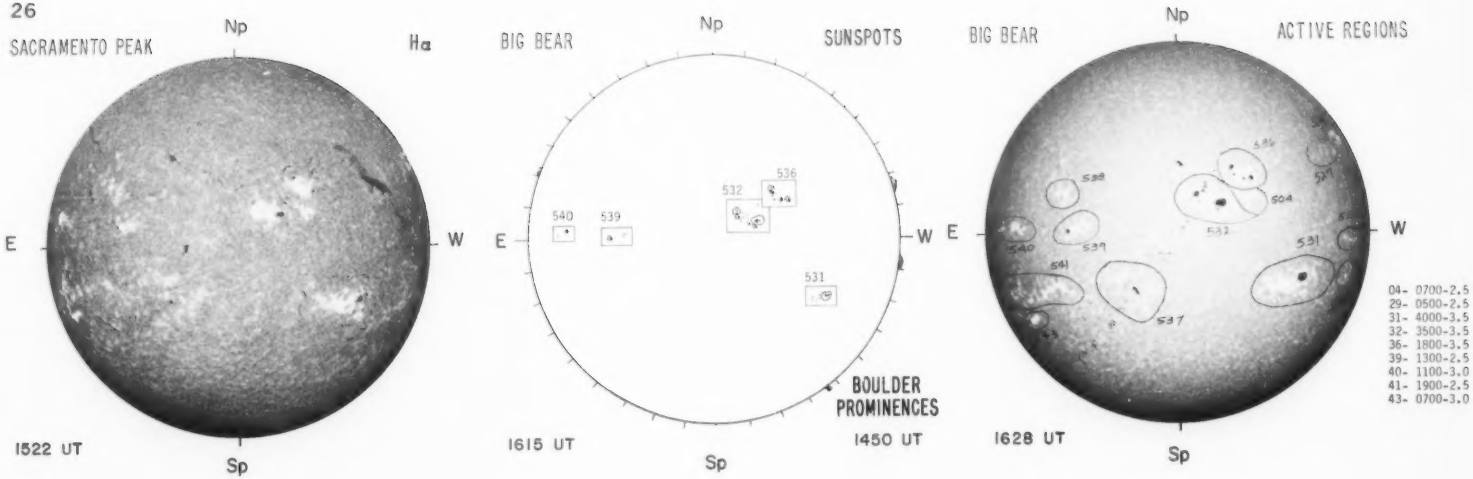
NO DATA

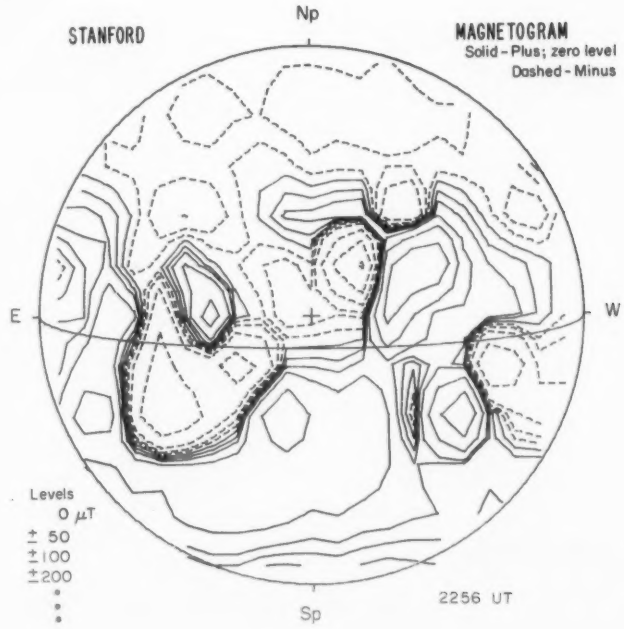
W

Levels
± 5
± ± 10
± ± 20
± ± 40
± ± 80

Sp

Sp


SACRAMENTO PEAK
Hα
Np
E
W
Sp
1522 UT
BIG BEAR
SUNSPOTS
540
539
532
536
531
BOULDER
PROMINENCES
1615 UT
1450 UT
BIG BEAR
ACTIVE REGIONS
1628 UT
04- 0700-2.5
29- 0500-2.5
31- 4000-3.5
32- 3500-3.5
36- 1800-3.5
39- 1300-2.5
40- 1100-3.0
41- 1900-2.5
43- 0700-3.0


STANFORD
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
Np
E
W
Sp
Levels
0 μT
± 50
±100
±200
2256 UT

AUGUST 27, 1982 (P= 19.66, $B_o$= 7.09, $L_o$= 114.24)

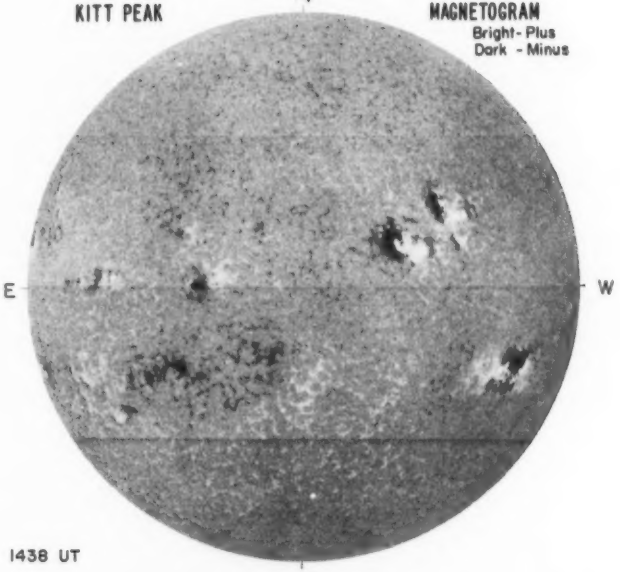
SACRAMENTO PEAK Np CORONA 5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

KITT PEAK Np MAGNETOGRAM Bright - Plus Dark - Minus



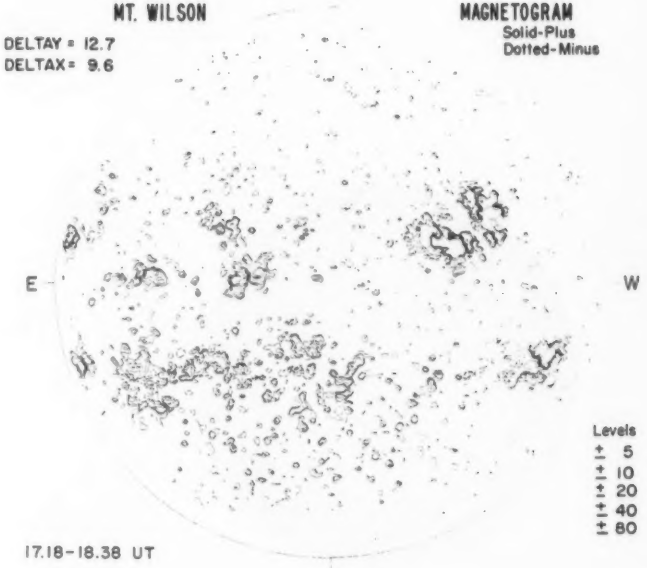

1438 UT

Sp

Np

MT. WILSON MAGNETOGRAM Solid-Plus Dotted-Minus

DELTAY = 12.7
DELTAX = 9.6

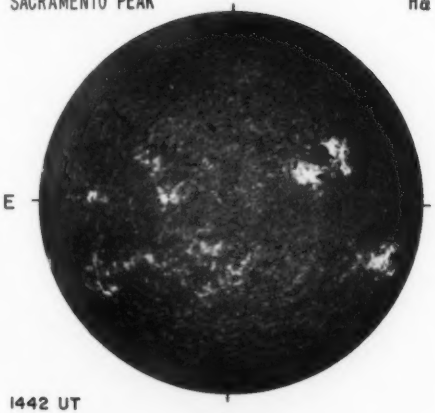



17.18-18.38 UT

Sp

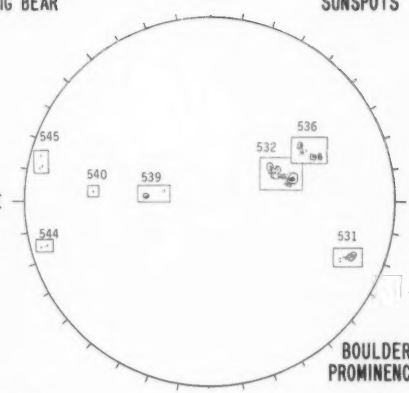
27

SACRAMENTO PEAK Hα




1442 UT

BIG BEAR SUNSPOTS

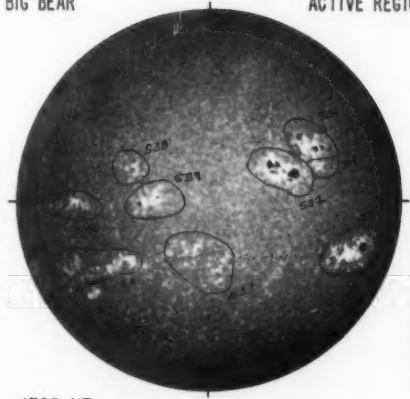



1615 UT

BOULDER PROMINENCES

NO DATA

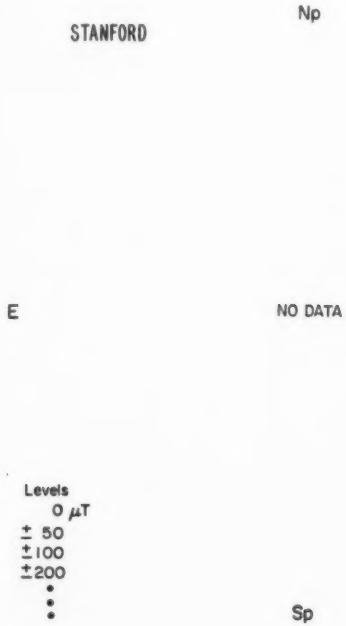
BIG BEAR ACTIVE REGIONS




1703 UT

04- 0700-3.0
31- 3600-3.5
32- 3600-3.5
36- 2400-3.8
39- 1400-3.0
40- 1000-3.0
41- 1800-2.5
43- 0400-2.5
44- 1000-2.5
45- 1200-2.5

STANFORD




MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

NO DATA

Levels
0 μT
± 50
± ± 100
± 200
• • •

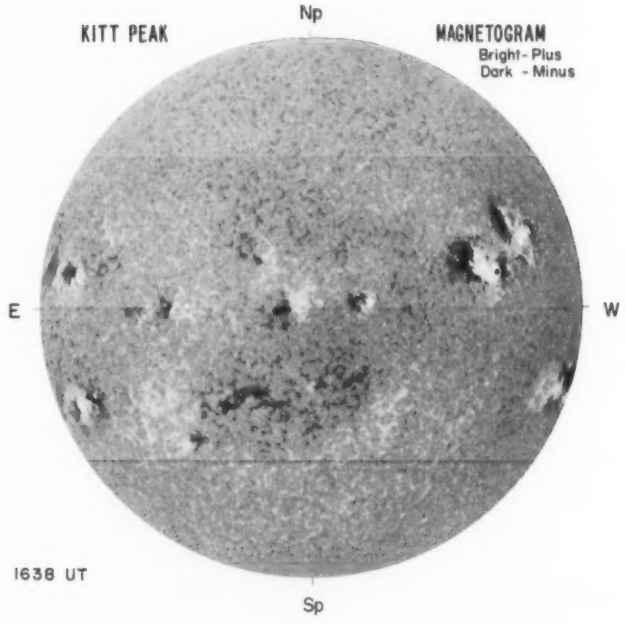
AUGUST 28, 1982 (P= 19.94, $B_o$ = 7.11, $L_o$ = 101.03)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

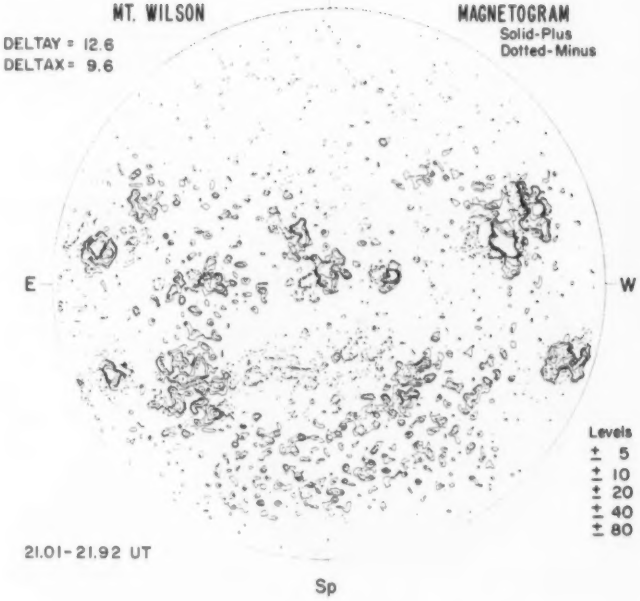
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus



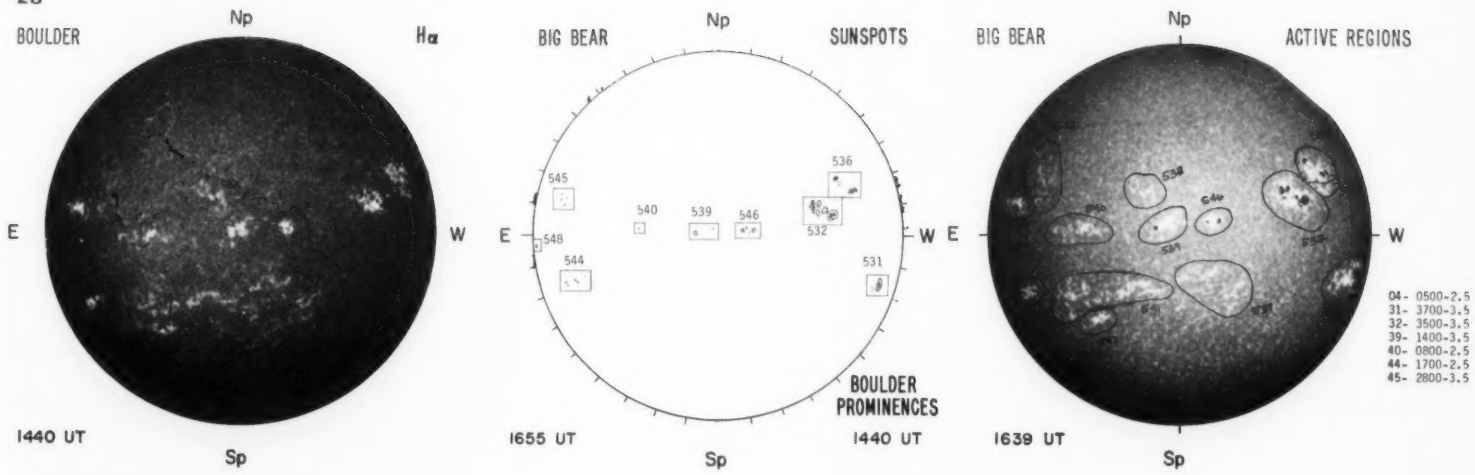

1638 UT

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.6
DELTAX = 9.6




21.01-21.92 UT

28




STANFORD

Np

**MAGNETOGRAM**
Solid - Plus; zero level
Dashed - Minus

E

**NO DATA**

W

**Levels**
0 μT
± 50
± 100
± 200

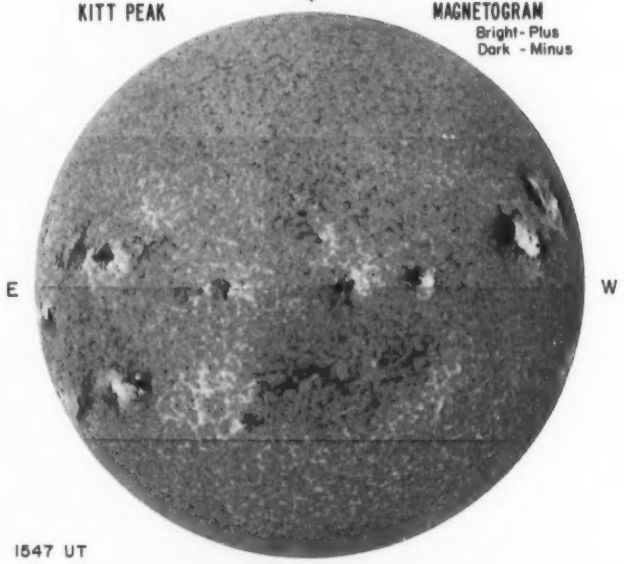
Sp

AUGUST 29, 1982 (P=20.22, $B_o$= 7.14, $L_o$= 87.82)

SACRAMENTO PEAK Np CORONA 5303 Å

E NO DATA W

KITT PEAK Np MAGNETOGRAM Bright-Plus Dark - Minus

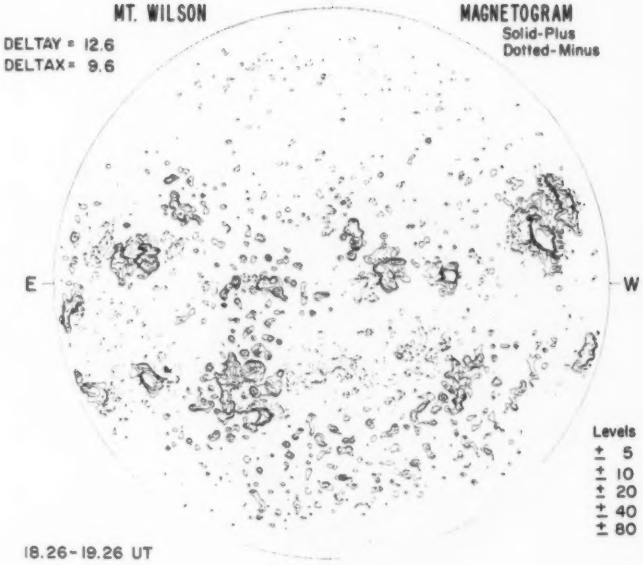



1547 UT

Sp

Sp Np MT. WILSON MAGNETOGRAM Solid-Plus Dotted-Minus

DELTAY = 12.6
DELTAX = 9.6

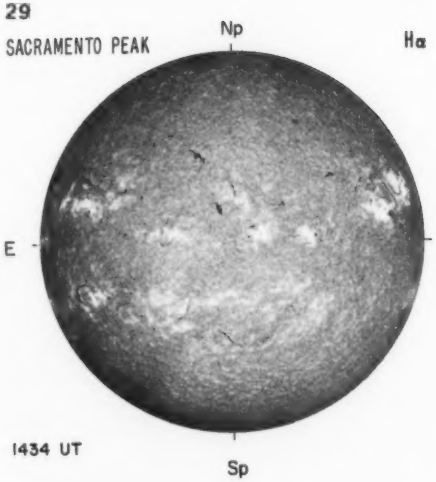



18.26-19.26 UT

Sp

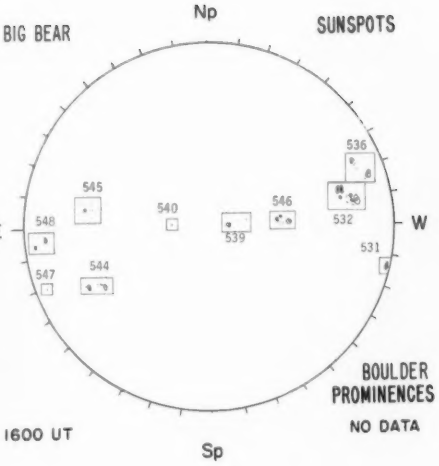
29

SACRAMENTO PEAK




1434 UT

BIG BEAR



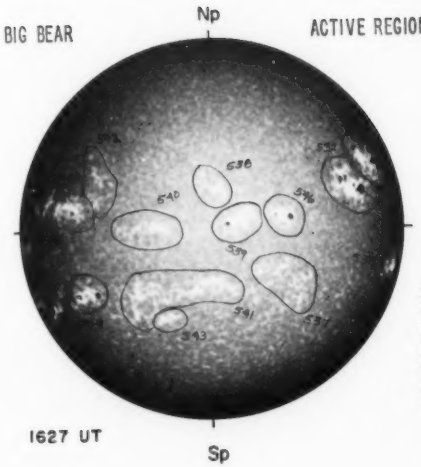

1600 UT

BOULDER PROMINENCES

NO DATA

BIG BEAR

ACTIVE REGIONS




1627 UT

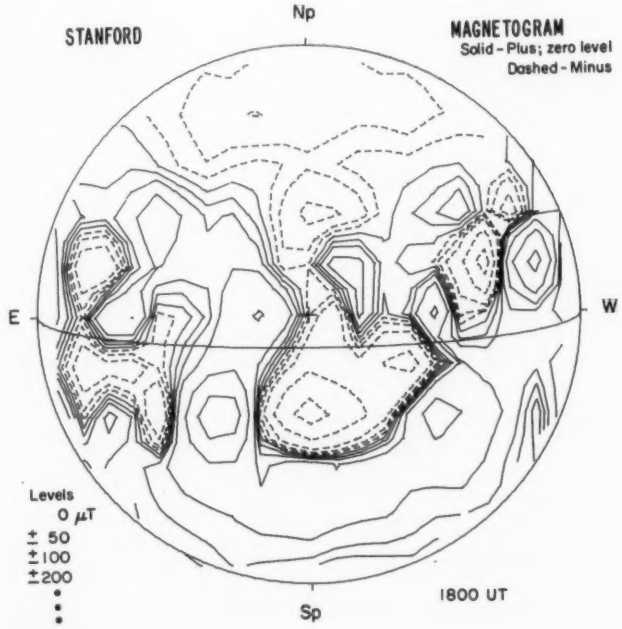
31- 2500-3.5
32- 3800-3.5
36- 3000-3.5
39- 1500-3.5
43- 0400-2.5
44- 1900-3.5
45- 2700-2.5
46- 1000-3.0
47- 1400-3.0
48- 1800-3.0

STANFORD

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus




1800 UT

105
Aug 82

AUGUST 30, 1982 (P= 20.49, $B_o$ = 7.16, $L_o$ = 74.61)

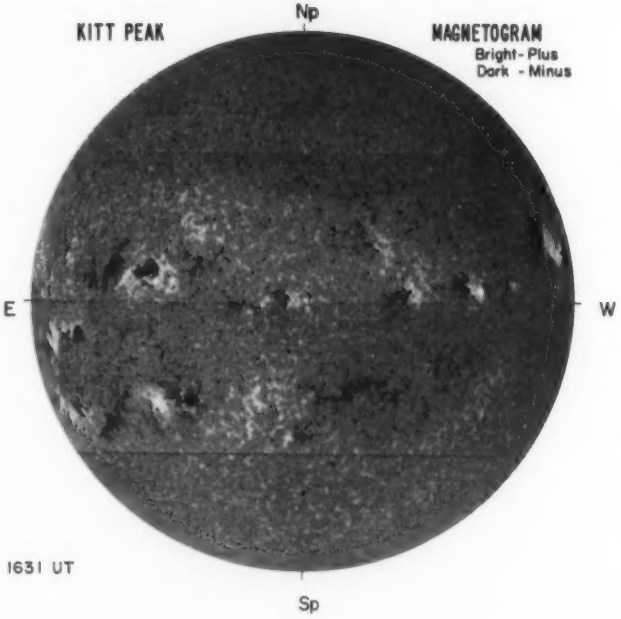
SACRAMENTO PEAK Np CORONA 5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus

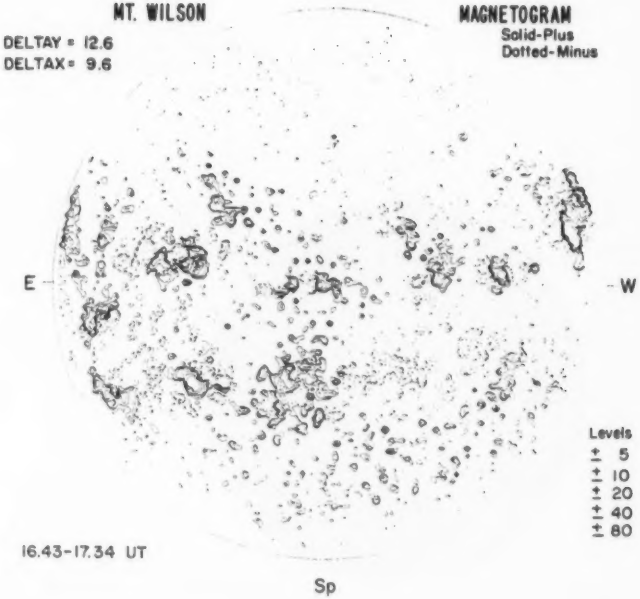



1631 UT

Np

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

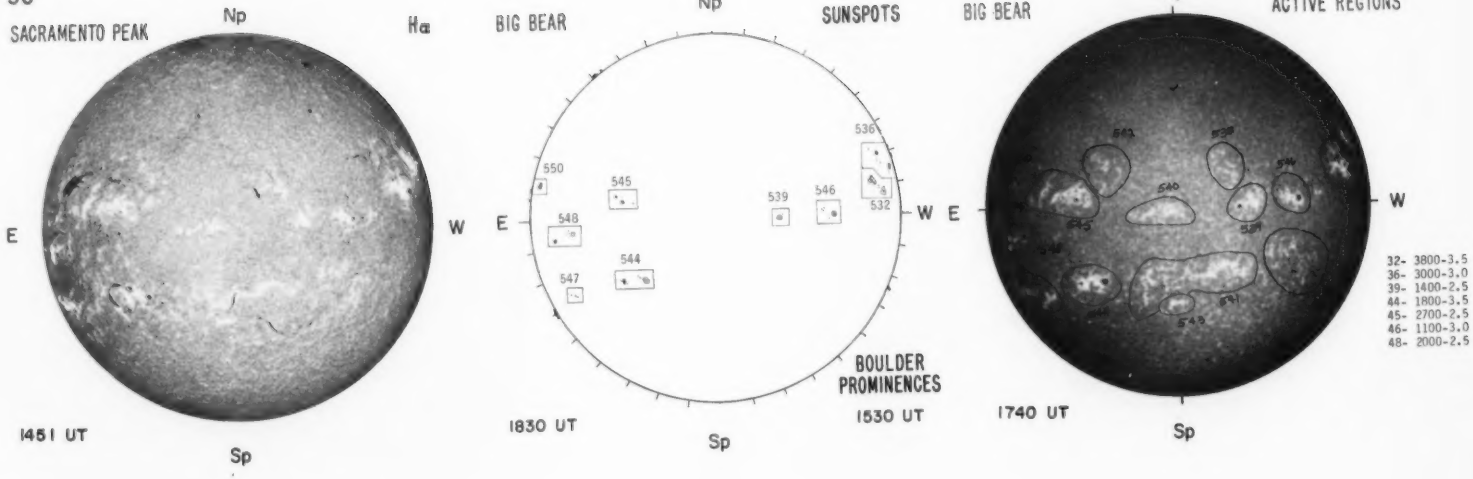
DELTAY = 12.6
DELTAX = 9.6

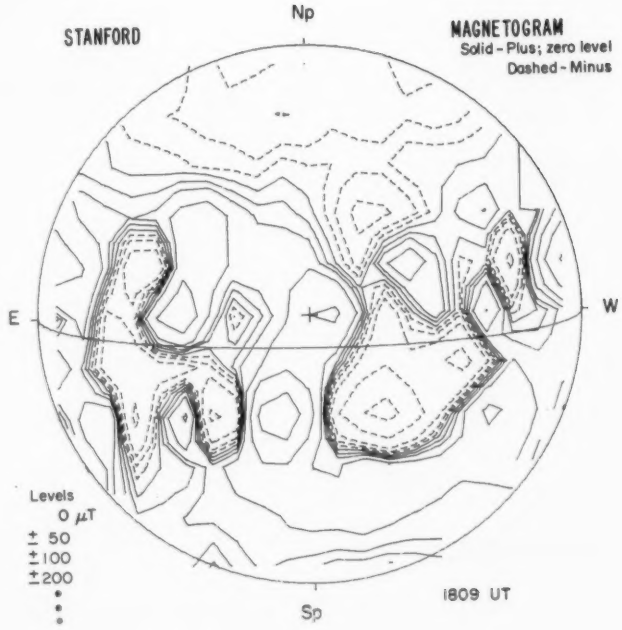



16.43-17.34 UT

Sp

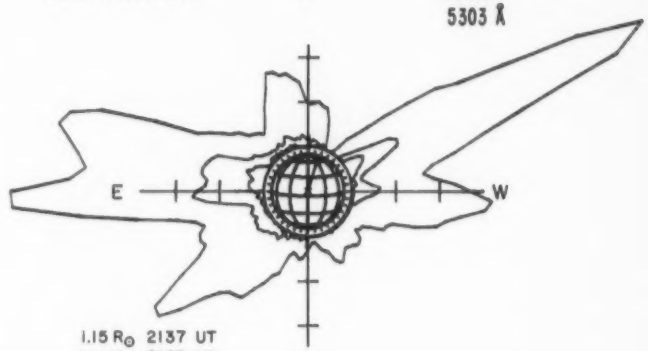
30


SACRAMENTO PEAK
Np
Hα
E
W
Sp
1451 UT
BIG BEAR
Np
SUNSPOTS
550
545
548
544
547
536
539
546
532
E
W
BOULDER
PROMINENCES
1530 UT
1830 UT
Sp
BIG BEAR
Np
ACTIVE REGIONS
E
W
32- 3800-3.5
36- 3000-3.0
39- 1400-2.5
44- 1800-3.5
45- 2700-2.5
46- 1100-3.0
48- 2000-2.5
1740 UT
Sp


STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Levels
0 μT
± 50
± 100
± 200
1809 UT
Sp

AUGUST 31, 1982 (P= 20.75, $B_o$ = 7.17, $L_o$ = 61.40)

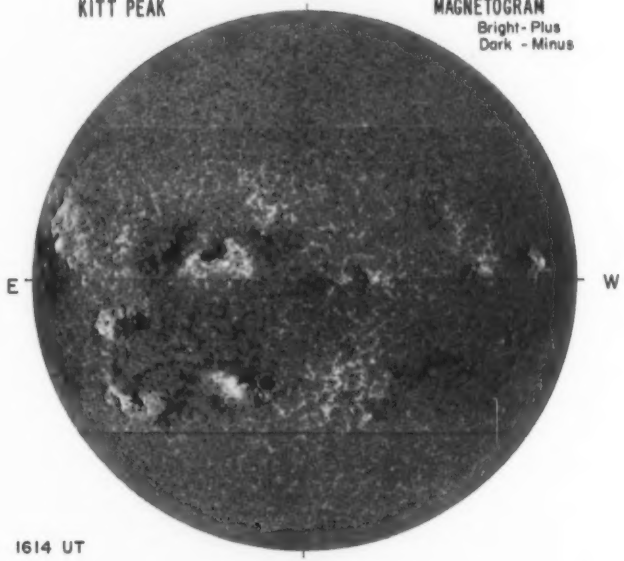
SACRAMENTO PEAK Np CORONA 5303 Å




1.15 $R_\odot$ 2137 UT
1.35 $R_\odot$ 2102 UT
1.55 $R_\odot$ 2109 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

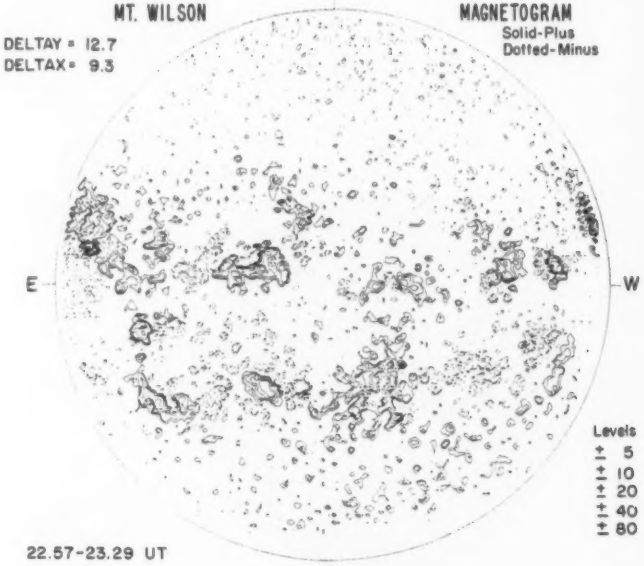



1614 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid - Plus
Dotted - Minus

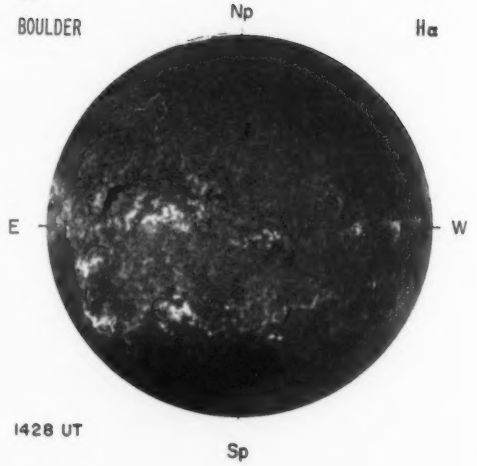
DELTAY = 12.7
DELTAX = 9.3

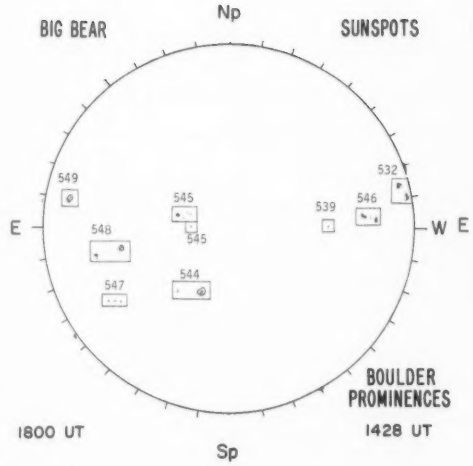


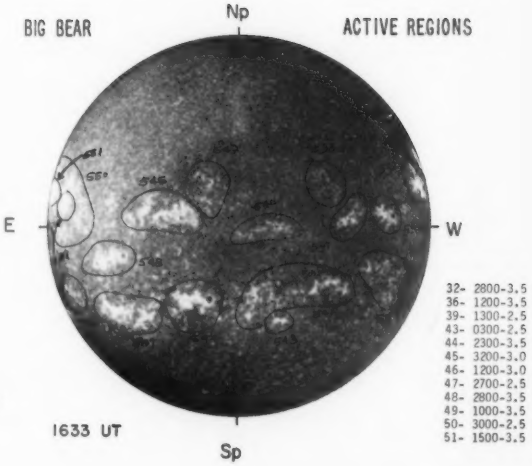

22.57-23.29 UT

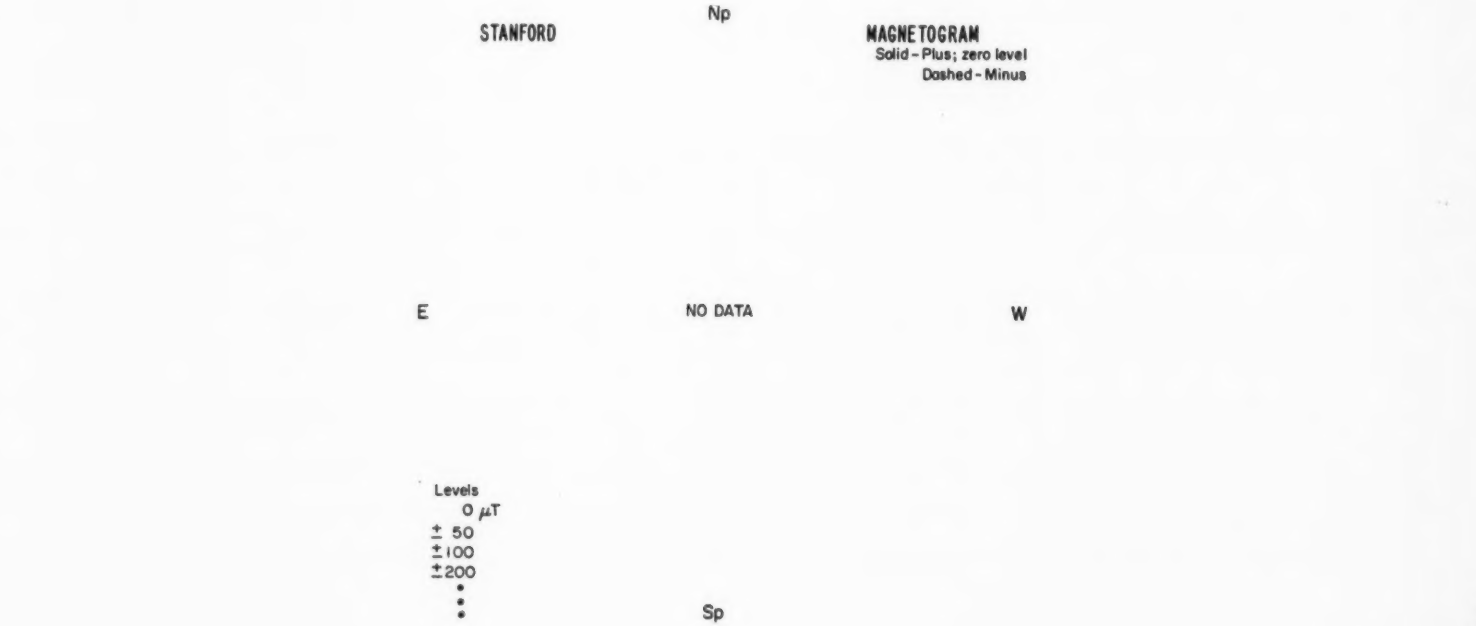
Sp

31


BOULDER
Np
Hα
E
W
1428 UT
Sp


BIG BEAR
Np
SUNSPOTS
549
545
532
539
546
548
545
547
544
E
W
1800 UT
Sp
BOULDER
PROMINENCES
1428 UT


BIG BEAR
Np
ACTIVE REGIONS
E
W
1633 UT
Sp
32- 2800-3.5
36- 1200-3.5
39- 1300-2.5
43- 0300-2.5
44- 2300-3.5
45- 3200-3.0
46- 1200-3.0
47- 2700-2.5
48- 2800-3.5
49- 1000-3.5
50- 3000-2.5
51- 1500-3.5


STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
NO DATA
W
Levels
0 μT
± 50
±100
±200
Sp

# REGIONS OF SOLAR ACTIVITY

## AUGUST 1982

BIG BEAR REGION 18480 CMP DATE 1.0 RETURN OF REGION 18454 ROTATION 3

| | | | CALCIUM PLAGE DATA | | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 07 | 25 | 18480 | S12 E80 | 101 | 1200 | 2.0 | | | | | | | | | |
| 82 | 07 | 27 | 18480 | S12 E58 | 97 | 2700 | 2.5 | 23242 | S13 E53 | 102 | (AF) | 2 | | | | |
| 82 | 07 | 28 | 18480 | S12 E44 | 98 | 2800 | 2.5 | | | | | | | | | |
| 82 | 07 | 29 | 18480 | S10 E31 | 98 | 2300 | 2.0 | 23243 | S05 E37 | 91 | (AP) | 2 | | | | |
| 82 | 07 | 30 | 18480 | S10 E18 | 98 | 2100 | 2.5 | 23247 | S12 E13 | 103 | (AF) | 3 | P | 20 | 4 | AXX |
| 82 | 07 | 30 | 18480 | S10 E18 | 98 | 2100 | 2.5 | 23243 | S06 E23 | 93 | ( B) | 2 | | | | |
| 82 | 07 | 31 | 18480 | S10 E04 | 97 | 2700 | 2.5 | 23247 | S12 W01 | 103 | (FY) | 3 | B | 20 | 3 | CRO |
| 82 | 08 | 1 | 18480 | S11 W09 | 98 | 2700 | 2.0 | 23247 | S12 W13 | 103 | ( B) | 3 | B | 10 | 3 | BXO |
| 82 | 08 | 2 | 18480 | S10 W22 | 97 | 2800 | 2.5 | | S11 W17 | | | | M | 20 | 4 | CRO |
| 82 | 08 | 3 | 18480 | S10 W36 | 99 | 2400 | 2.5 | | | | | | | | | |
| 82 | 08 | 4 | 18480 | S10 W50 | 100 | 1800 | 2.5 | | | | | | | | | |
| 82 | 08 | 5 | 18480 | S10 W65 | 99 | 1600 | 2.5 | | | | | | | | | |

BIG BEAR REGION 18492B CMP DATE 3.6

| | | | CALCIUM PLAGE DATA | | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 07 | 28 | 18492B | S12 E80 | 62 | 200 | 3.0 | | | | | | | | | |
| 82 | 07 | 29 | 18492B | S12 E67 | 62 | 800 | 3.5 | 23244 | S11 E68 | 60 | ( B) | 4 | H | 20 | 6 | BXO |
| 82 | 07 | 30 | 18492B | S13 E55 | 61 | 2000 | 4.0 | 23244 | S12 E55 | 61 | ( B) | 3 | H | 180 | 15 | DAI |
| 82 | 07 | 31 | 18492B | S13 E40 | 61 | 2500 | 3.5 | 23244 | S11 E42 | 60 | ( B) | 5 | B | 210 | 19 | DAI |
| 82 | 08 | 1 | 18492B | S12 E28 | 61 | 2500 | 2.5 | 23244 | S11 E29 | 61 | (BY) | 5 | H | 340 | 36 | EKO |
| 82 | 08 | 2 | 18492B | S11 E15 | 60 | 3200 | 3.0 | 23244 | S11 E15 | 61 | ( B) | 5 | H | 550 | 46 | EAI |
| 82 | 08 | 3 | 18492B | S12 W00 | 63 | 3400 | 3.5 | 23244 | S11 E03 | 61 | ( B) | 5 | B | 520 | 54 | EKI |
| 82 | 08 | 4 | 18492B | S12 W13 | 63 | 3000 | 3.5 | 23244 | S11 W12 | 62 | (BY) | 4 | H | 390 | 44 | EKI |
| 82 | 08 | 5 | 18492B | S12 W27 | 61 | 3500 | 4.0 | 23244 | S12 W25 | 60 | (BY) | 5 | | | | |
| 82 | 08 | 6 | 18492B | | | | | 23244 | S10 W40 | 62 | BY | 4 | | | | |
| 82 | 08 | 7 | 18492B | S13 W52 | 60 | 4200 | 3.5 | 23244 | S12 W52 | 62 | ( B) | 4 | H | 200 | 28 | FAO |
| 82 | 08 | 8 | 18492B | S13 W67 | 63 | 4300 | 3.0 | 23244 | S13 W65 | 61 | (BP) | 3 | H | 90 | 16 | ESO |
| 82 | 08 | 9 | 18492B | S13 W80 | 64 | 3500 | 3.0 | 23244 | S10 W78 | 61 | AF | 2 | H | 10 | 2 | BXO |

BIG BEAR REGION 18495 CMP DATE 5.4 RETURN OF REGION 18479 ROTATION 2

| | | | CALCIUM PLAGE DATA | | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 07 | 29 | 18495 | N15 E90 | 39 | 300 | 1.0 | 23245 | N17 E85 | 43 | (AP) | 2 | H | | 1 | AXX |
| 82 | 07 | 30 | 18495 | N15 E80 | 36 | 1700 | 3.0 | 23245 | N16 E74 | 42 | ( B) | 4 | H | 50 | 9 | DSI |
| 82 | 07 | 31 | 18495 | N15 E64 | 37 | 2800 | 3.0 | 23245 | N16 E60 | 42 | ( B) | 4 | B | 110 | 6 | DAO |
| 82 | 08 | 1 | 18495 | N16 E50 | 39 | 2500 | 2.5 | 23245 | N16 E47 | 43 | ( B) | 4 | H | 50 | 5 | DSO |
| 82 | 08 | 2 | 18495 | N17 E36 | 39 | 2400 | 3.0 | 23245 | N16 E34 | 42 | ( B) | 4 | H | 30 | 6 | CSO |
| 82 | 08 | 3 | 18495 | N17 E24 | 39 | 2200 | 3.0 | 23245 | N16 E22 | 42 | ( B) | 4 | B | 20 | 9 | BXO |
| 82 | 08 | 4 | 18495 | N17 E10 | 40 | 2400 | 2.5 | 23245 | N17 E05 | 45 | (AP) | 3 | H | 10 | 3 | BXO |
| 82 | 08 | 5 | 18495 | N17 W05 | 39 | 1900 | 2.5 | 23245 | N15 W06 | 41 | ( B) | 2 | | | | |
| 82 | 08 | 7 | 18495 | N16 W32 | 40 | 1200 | 2.5 | | | | | | | | | |
| 82 | 08 | 8 | 18495 | N16 W45 | 41 | 1300 | 2.5 | 23262 | N13 W42 | 38 | (AF) | 2 | | | | |
| 82 | 08 | 9 | 18495 | N16 W59 | 43 | 1400 | 3.0 | | | | | | | | | |
| 82 | 08 | 10 | 18495 | N16 W72 | 43 | 1300 | 3.5 | | | | | | | | | |
| 82 | 08 | 11 | 18495 | N16 W90 | 47 | 900 | 3.0 | | | | | | | | | |

BIG BEAR REGION 18506 CMP DATE 6.3 RETURN OF REGION 18462 ROTATION 3

| | | | CALCIUM PLAGE DATA | | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 07 | 31 | 18506 | S20 E75 | 26 | 1500 | 2.0 | | | | | | | | | |
| 82 | 08 | 1 | 18506 | S20 E65 | 24 | 1400 | 1.5 | | | | | | | | | |
| 82 | 08 | 2 | 18506 | S18 E51 | 24 | 1000 | 1.5 | | | | | | | | | |
| 82 | 08 | 3 | 18506 | S19 E36 | 27 | 900 | 1.5 | | | | | | | | | |
| 82 | 08 | 4 | 18506 | S20 E23 | 27 | 800 | 2.0 | | | | | | | | | |
| 82 | 08 | 5 | 18506 | S19 E07 | 27 | 800 | 1.5 | | | | | | | | | |
| 82 | 08 | 7 | 18506 | S20 W18 | 26 | 700 | 1.5 | 23257 | S16 W18 | 28 | (AP) | 2 | P | 50 | 20 | CSO |

# REGIONS OF SOLAR ACTIVITY

AUGUST 1982

BIG BEAR REGION 18506 (CONT) CMP DATE 6.3 RETURN OF REGION 18462 ROTATION 3

| | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 8 | 18506 | S20 W32 | 28 | 700 | 1.5 | | | | | | | | | |
| 82 | 08 | 9 | 18506 | S19 W46 | 30 | 700 | 1.5 | | | | | | | | | |
| 82 | 08 | 10 | 18506 | S19 W58 | 29 | 500 | 1.0 | | | | | | | | | |
| 82 | 08 | 11 | 18506 | S19 W76 | 33 | 500 | 1.0 | | | | | | | | | |

BIG BEAR REGION 18508 CMP DATE 7.0

| | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 2 | 18508 | N12 E63 | 12 | 200 | 1.0 | | | | | | | | | |
| 82 | 08 | 3 | 18508 | N11 E50 | 13 | 200 | 2.0 | | N09 E56 | | | | B | 10 | 2 | AXX |
| 82 | 08 | 4 | 18508 | N10 E34 | 16 | 1000 | 3.5 | 23253 | N09 E34 | 16 | ( B) | 4 | H | 40 | 19 | DSO |
| 82 | 08 | 5 | 18508 | N10 E17 | 17 | 1200 | 3.0 | 23253 | N09 E19 | 16 | ( B) | 5 | | | | |
| 82 | 08 | 6 | 18508 | | | | | 23253 | N09 E03 | 19 | B | 5 | | | | |
| 82 | 08 | 7 | 18508 | N10 W10 | 18 | 1500 | 3.0 | 23253 | N09 W08 | 18 | ( B) | 5 | H | 300 | 30 | EAO |
| 82 | 08 | 8 | 18508 | N10 W23 | 19 | 1600 | 3.0 | 23253 | N09 W21 | 17 | ( B) | 4 | H | 220 | 12 | ESO |
| 82 | 08 | 9 | 18508 | N10 W35 | 19 | 2500 | 2.5 | 23253 | N09 W37 | 20 | ( B) | 4 | H | 70 | 16 | ESO |
| 82 | 08 | 10 | 18508 | N10 W50 | 21 | 2500 | 3.5 | 23253 | N09 W47 | 18 | ( B) | 4 | H | 40 | 5 | CSO |
| 82 | 08 | 11 | 18508 | N10 W64 | 21 | 2000 | 3.0 | 23253 | N10 W68 | 26 | (BP) | 4 | H | 40 | 6 | CSO |
| 82 | 08 | 12 | 18508 | N10 W88 | 33 | 1200 | 2.5 | 23253 | N10 W82 | 26 | (AP) | 3 | L | 50 | 3 | CAO |

BIG BEAR REGION 18514 CMP DATE 7.2

| | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 5 | 18514 | S15 E19 | 15 | 200 | 1.5 | 23255 | S15 E18 | 17 | (AP) | 3 | | | | |
| 82 | 08 | 6 | 18514 | | | | | 23255 | S15 E03 | 19 | B | 4 | | | | |
| 82 | 08 | 7 | 18514 | S15 W07 | 15 | 900 | 3.0 | 23255 | S15 W07 | 17 | (BP) | 4 | H | 70 | 25 | EAI |
| 82 | 08 | 8 | 18514 | S15 W21 | 17 | 1400 | 3.5 | 23255 | S16 W20 | 16 | ( B) | 3 | H | 70 | 19 | EAO |
| 82 | 08 | 9 | 18514 | S15 W36 | 20 | 1700 | 2.5 | 23255 | S15 W37 | 20 | ( B) | 3 | H | 40 | 14 | BXO |
| 82 | 08 | 10 | 18514 | S15 W47 | 18 | 2000 | 3.0 | 23255 | S15 W47 | 18 | ( B) | 4 | H | 10 | 4 | BXO |
| 82 | 08 | 11 | 18514 | S15 W62 | 19 | 1600 | 3.0 | 23255 | S15 W61 | 19 | ( B) | 4 | H | 10 | 2 | BXO |
| 82 | 08 | 12 | 18514 | S16 W78 | 23 | 1500 | 3.0 | | S18 W70 | | | | H | | 2 | AXX |

BIG BEAR REGION 18515 CMP DATE 7.5

| | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 7 | 18515 | S18 W03 | 11 | 100 | 2.0 | 23258 | S19 W03 | 13 | ( B) | 3 | H | 70 | 25 | EAI |
| 82 | 08 | 8 | 18515 | S18 W17 | 13 | 300 | 2.5 | 23258 | S19 W17 | 13 | ( B) | 4 | H | 70 | 19 | EAO |
| 82 | 08 | 9 | 18515 | S19 W32 | 16 | 700 | 2.0 | 23258 | S19 W33 | 16 | ( B) | 3 | H | 40 | 14 | BXO |
| 82 | 08 | 10 | 18515 | S18 W45 | 16 | 1000 | 3.0 | 23258 | S19 W44 | 15 | ( B) | 3 | H | 10 | 5 | BXO |
| 82 | 08 | 11 | 18515 | S19 W60 | 17 | 1000 | 3.0 | 23258 | S19 W57 | 15 | (BF) | 4 | H | 20 | 2 | CSO |
| 82 | 08 | 12 | 18515 | S20 W75 | 20 | 1200 | 3.5 | 23258 | S15 W70 | 14 | (AF) | 3 | H | | 2 | AXX |

BIG BEAR REGION 18509 CMP DATE 8.2 RETURN OF REGION 18468 ROTATION 3

| | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 2 | 18509 | N10 E78 | 357 | 600 | 2.5 | | | | | | | | | |
| 82 | 08 | 3 | 18509 | N10 E64 | 359 | 700 | 2.0 | 23251 | N08 E58 | 6 | (AP) | 3 | B | 10 | 2 | AXX |
| 82 | 08 | 4 | 18509 | N10 E49 | 1 | 700 | 2.5 | 23251 | N08 E44 | 6 | (AP) | 3 | H | 40 | 19 | DSO |
| 82 | 08 | 5 | 18509 | N10 E34 | 0 | 600 | 2.5 | 23251 | N11 E35 | | (AP) | 3 | | | | |
| 82 | 08 | 7 | 18509 | N10 E06 | 2 | 600 | 2.5 | | | | | | | | | |
| 82 | 08 | 8 | 18509 | N10 W06 | 2 | 600 | 2.0 | | N10 W14 | | | | L | 250 | 15 | EKO |
| 82 | 08 | 9 | 18509 | N10 W20 | 4 | 500 | 2.5 | | N10 W28 | | | | M | 180 | 10 | EAO |
| 82 | 08 | 10 | 18509 | N11 W35 | 6 | 500 | 2.0 | | N09 W42 | | | | L | 50 | 7 | ERO |
| 82 | 08 | 11 | 18509 | N11 W48 | 5 | 600 | 2.0 | | N10 W56 | | | | L | 50 | 5 | CAO |
| 82 | 08 | 12 | 18509 | N10 W67 | 12 | 600 | 2.0 | | N10 W72 | | | | L | 50 | 3 | CAO |

# REGIONS OF SOLAR ACTIVITY

## AUGUST 1982

BIG BEAR REGION 18510 CMP DATE 8.3 RETURN OF REGION 18469 ROTATION 3

| | | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 1 | 18510 | | | | | 23250 | S15 E88 | 2 | AP | 1 | P | 30 | 1 | HSX |
| 82 | 08 | 2 | 18510 | S16 E80 | 355 | 700 | 2.0 | 23250 | S16 E71 | 5 | (AP) | 4 | H | 120 | 1 | HSX |
| 82 | 08 | 3 | 18510 | S16 E65 | 358 | 700 | 2.0 | 23250 | S15 E58 | 6 | (AP) | 4 | B | 80 | 2 | CSO |
| 82 | 08 | 4 | 18510 | S16 E50 | 0 | 700 | 2.5 | 23250 | S16 E44 | 6 | (AP) | 5 | H | 30 | 1 | HSX |
| 82 | 08 | 5 | 18510 | S16 E34 | 0 | 1100 | 3.0 | 23250 | S15 E31 | 4 | (AP) | 5 | | | | |
| 82 | 08 | 6 | 18510 | | | | | 23250 | S15 E13 | 9 | AP | 4 | H | 40 | 4 | CSO |
| 82 | 08 | 7 | 18510 | S16 E09 | 359 | 1200 | 2.5 | 23250 | S15 E03 | 7 | (AP) | 4 | H | 60 | 3 | HAX |
| 82 | 08 | 8 | 18510 | S16 W05 | 1 | 1100 | 2.5 | 23250 | S15 W10 | 6 | (AP) | 4 | H | 20 | 6 | CSO |
| 82 | 08 | 9 | 18510 | | | | | 23250 | S15 W25 | 8 | (AP) | 2 | H | 10 | 3 | BXO |
| 82 | 08 | 10 | 18510 | S16 W33 | 4 | 1400 | 2.5 | 23250 | S15 W37 | 8 | (AP) | 4 | H | | 1 | AXX |
| 82 | 08 | 10 | 18510 | S16 W33 | 4 | 1400 | 2.5 | 23265 | S17 W28 | 359 | (AF) | 3 | H | | 1 | AXX |
| 82 | 08 | 11 | 18510 | S16 W47 | 4 | 1200 | 2.5 | 23265 | S17 W43 | 1 | ( B) | 3 | H | 10 | 3 | BXO |
| 82 | 08 | 11 | 18510 | S16 W47 | 4 | 1200 | 2.5 | 23250 | S15 W51 | 9 | (AP) | 4 | H | | 1 | AXX |
| 82 | 08 | 12 | 18510 | S16 W60 | 5 | 1200 | 2.5 | 23250 | S15 W61 | 5 | (AP) | 3 | H | | 2 | AXX |

BIG BEAR REGION 18512 CMP DATE 8.5

| | | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 3 | 18512 | S12 E68 | 355 | 100 | 1.5 | | S15 E59 | | | | B | 80 | 2 | CSO |
| 82 | 08 | 4 | 18512 | S12 E55 | 355 | 300 | 2.5 | 23254 | S11 E52 | 358 | (AP) | 2 | H | 30 | 1 | HSX |
| 82 | 08 | 5 | 18512 | S12 E38 | 356 | 300 | 2.5 | 23254 | S12 E40 | 355 | ( B) | 3 | | | | |
| 82 | 08 | 6 | 18512 | | | | | 23254 | S12 E22 | | B | 3 | H | 40 | 4 | CSO |
| 82 | 08 | 7 | 18512 | S12 E12 | 356 | 400 | 2.5 | 23254 | S12 E12 | 358 | ( B) | 4 | H | 20 | 5 | BXO |
| 82 | 08 | 8 | 18512 | S12 W02 | 358 | 500 | 2.5 | 23254 | S11 W01 | 357 | ( B) | 3 | H | 20 | 5 | BXO |
| 82 | 08 | 9 | 18512 | S12 W14 | 358 | 600 | 3.0 | 23254 | S12 W17 | | ( B) | 4 | H | 20 | 6 | BXO |
| 82 | 08 | 10 | 18512 | S11 W28 | 359 | 500 | 2.5 | 23254 | S11 W29 | | ( B) | 3 | H | | 1 | AXX |
| 82 | 08 | 11 | 18512 | S11 W41 | 358 | 400 | 1.5 | | S16 W44 | | | | H | 10 | 3 | BXO |
| 82 | 08 | 12 | 18512 | S11 W54 | 359 | 300 | 1.5 | | S15 W54 | | | | L | 10 | 3 | BXO |

BIG BEAR REGION 18511 CMP DATE 10.6 RETURN OF REGION 18474 ROTATION 3

| | | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 3 | 18511 | N09 E84 | 339 | 2000 | 4.0 | 23252 | N08 E80 | 344 | (AP) | 4 | B | 420 | 7 | EHO |
| 82 | 08 | 4 | 18511 | N09 E75 | 335 | 5500 | 4.0 | 23252 | N08 E72 | 338 | (BY) | 5 | H | 470 | 28 | FHI |
| 82 | 08 | 5 | 18511 | N10 E65 | 329 | 14000 | 4.0 | 23252 | N10 E62 | 333 | ( D) | 5 | | | | |
| 82 | 08 | 6 | 18511 | | | | | 23252 | N09 E48 | 334 | D | 5 | | | | |
| 82 | 08 | 6 | 18511 | | | | | 23256 | N18 E64 | 318 | X | 2 | | | | |
| 82 | 08 | 7 | 18511 | N12 E38 | 330 | 13000 | 3.5 | 23252 | N10 E35 | 335 | ( D) | 5 | H | 1250 | 21 | DHO |
| 82 | 08 | 8 | 18511 | N12 E25 | 331 | 13000 | 4.0 | 23252 | N10 E23 | 333 | ( D) | 5 | H | 930 | 75 | FKC |
| 82 | 08 | 9 | 18511 | N11 E14 | 330 | 14000 | 4.0 | 23252 | N10 E10 | 333 | ( D) | 5 | H | 540 | 71 | FAI |
| 82 | 08 | 10 | 18511 | N12 W00 | 331 | 15000 | 4.5 | 23252 | N10 W03 | 334 | ( D) | 6 | H | 510 | 31 | EKI |
| 82 | 08 | 11 | 18511 | N12 W14 | 331 | 15800 | 4.5 | 23252 | N10 W15 | 333 | (BY) | 5 | H | 280 | 33 | FKI |
| 82 | 08 | 12 | 18511 | N11 W28 | 333 | 16000 | 4.0 | 23252 | N10 W23 | 327 | (BY) | 6 | H | 130 | 37 | ESI |
| 82 | 08 | 13 | 18511 | | | | | 23252 | N10 W42 | 333 | (BY) | 5 | H | 370 | 24 | FHI |
| 82 | 08 | 14 | 18511 | N11 W58 | 333 | 16000 | 4.0 | 23252 | N10 W56 | 334 | (BY) | 5 | H | 250 | 9 | ESO |
| 82 | 08 | 15 | 18511 | N12 W73 | 336 | 16500 | 4.0 | 23252 | N11 W69 | 333 | (BY) | 4 | H | 130 | 6 | DSO |
| 82 | 08 | 16 | 18511 | N11 W79 | 328 | 4000 | 3.0 | 23252 | N10 W70 | 321 | (AF) | 4 | H | 10 | 3 | BXO |
| 82 | 08 | 17 | 18511 | N11 W90 | 326 | 2500 | 3.0 | | N13 W80 | | | | M | 10 | 1 | AXX |

# REGIONS OF SOLAR ACTIVITY

AUGUST 1982

BIG BEAR REGION 18513 CMP DATE 10.6 RETURN OF REGION 18472 ROTATION 2

| | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 4 | 18513 | S28 E77 | 333 | 500 | 1.5 | | | | | | | | | |
| 82 | 08 | 5 | 18513 | S27 E63 | 331 | 700 | 1.5 | | | | | | | | | |
| 82 | 08 | 7 | 18513 | S27 E40 | 328 | 600 | 2.0 | | | | | | | | | |
| 82 | 08 | 8 | 18513 | S27 E27 | 329 | 600 | 2.0 | | | | | | | | | |
| 82 | 08 | 9 | 18513 | S27 E12 | 332 | 800 | 2.0 | | S23 E14 | | | | L | | 1 | AXX |
| 82 | 08 | 10 | 18513 | S27 W00 | 331 | 700 | 2.0 | | | | | | | | | |
| 82 | 08 | 11 | 18513 | S27 W14 | 331 | 700 | 1.5 | | | | | | | | | |
| 82 | 08 | 12 | 18513 | S27 W26 | 331 | 800 | 1.5 | 23277 | S25 W18 | 322 | (AP) | 2 | L | | 2 | AXX |
| 82 | 08 | 14 | 18513 | S28 W56 | 331 | 800 | 2.0 | | | | | | | | | |
| 82 | 08 | 15 | 18513 | S29 W70 | 333 | 1100 | 2.0 | | | | | | | | | |

BIG BEAR REGION 18516 CMP DATE 11.4 RETURN OF REGION 18478 ROTATION 2

| | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 7 | 18516 | S05 E55 | 313 | 300 | 2.0 | 23259 | S08 E53 | 317 | ( B) | 2 | H | 10 | 3 | BXO |
| 82 | 08 | 8 | 18516 | S06 E40 | 316 | 200 | 2.0 | 23259 | S08 W42 | 38 | (AF) | 2 | | | | |
| 82 | 08 | 9 | 18516 | S08 E25 | 319 | 700 | 2.5 | | S07 E25 | | | | B | | 1 | AXX |
| 82 | 08 | 10 | 18516 | S08 E12 | 319 | 1000 | 3.0 | 23259 | S12 E12 | 319 | (AP) | 3 | H | 60 | 13 | CSO |
| 82 | 08 | 11 | 18516 | S08 W03 | 320 | 1400 | 2.5 | 23259 | S09 W01 | 319 | ( B) | 5 | H | 70 | 8 | DSO |
| 82 | 08 | 12 | 18516 | S08 W16 | 321 | 1300 | 2.5 | 23259 | S08 W16 | 320 | ( B) | 5 | H | 30 | 9 | CSO |
| 82 | 08 | 13 | 18516 | | | | | 23259 | S08 W28 | 319 | ( B) | 4 | H | 50 | 5 | DRO |
| 82 | 08 | 14 | 18516 | S09 W47 | 322 | 1600 | 2.5 | 23259 | S08 W43 | 321 | ( B) | 4 | H | 20 | 7 | BXO |
| 82 | 08 | 15 | 18516 | S08 W60 | 323 | 2000 | 2.5 | 23259 | S08 W56 | 320 | ( B) | 4 | H | 10 | 3 | BXO |
| 82 | 08 | 16 | 18516 | S10 W81 | 330 | 1300 | 1.5 | | | | | | | | | |

BIG BEAR REGION 18517 CMP DATE 12.1 RETURN OF REGION 18481 ROTATION 2

| | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 7 | 18517 | S12 E64 | 304 | 400 | 2.0 | | S07 E54 | | | | H | 10 | 3 | BXO |
| 82 | 08 | 8 | 18517 | S13 E48 | 308 | 300 | 2.0 | | S09 E40 | | | | B | | 1 | AXI |
| 82 | 08 | 9 | 18517 | S13 E33 | 311 | 700 | 2.5 | | | | | | | | | |
| 82 | 08 | 10 | 18517 | S13 E20 | 311 | 600 | 2.5 | 23269 | S12 E22 | 309 | (AP) | 3 | H | | 1 | AXX |
| 82 | 08 | 11 | 18517 | S13 E06 | 311 | 800 | 2.5 | | S10 E05 | | | | M | 80 | 7 | DSO |
| 82 | 08 | 12 | 18517 | S13 W08 | 313 | 600 | 2.0 | 23278 | S14 W06 | 310 | (AP) | 2 | H | 30 | 9 | CSO |
| 82 | 08 | 14 | 18517 | S14 W37 | 312 | 600 | 2.0 | | | | | | | | | |
| 82 | 08 | 15 | 18517 | S15 W50 | 313 | 600 | 2.0 | | | | | | | | | |
| 82 | 08 | 16 | 18517 | S16 W65 | 314 | 500 | 1.5 | | | | | | | | | |

BIG BEAR REGION 18520 CMP DATE 12.3 RETURN OF REGION 18473 ROTATION 6

| | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 7 | 18520 | N25 E65 | 303 | 800 | 2.0 | | | | | | | | | |
| 82 | 08 | 8 | 18520 | N24 E50 | 306 | 1200 | 2.0 | | N19 E48 | | | | L | 10 | 2 | AXX |
| 82 | 08 | 9 | 18520 | N22 E37 | 307 | 2700 | 2.5 | | | | | | | | | |
| 82 | 08 | 10 | 18520 | N22 E22 | 309 | 2400 | 2.0 | 23268 | N20 E16 | 315 | (AP) | 3 | | | | |
| 82 | 08 | 11 | 18520 | N22 E09 | 308 | 2100 | 2.0 | 23268 | N18 E01 | 317 | (AP) | 2 | H | 10 | 2 | AXX |
| 82 | 08 | 11 | 18520 | N22 E09 | 308 | 2100 | 2.0 | 23271 | N20 E07 | 311 | (AP) | 3 | H | 10 | 2 | AXX |
| 82 | 08 | 12 | 18520 | N21 W04 | 309 | 2200 | 2.0 | 23268 | N19 W19 | 323 | (AP) | 2 | | | | |
| 82 | 08 | 14 | 18520 | N20 W36 | 311 | 2500 | 2.5 | | | | | | | | | |
| 82 | 08 | 15 | 18520 | N23 W49 | 312 | 2800 | 2.5 | | | | | | | | | |
| 82 | 08 | 16 | 18520 | N19 W63 | 312 | 2000 | 2.5 | | | | | | | | | |
| 82 | 08 | 17 | 18520 | N19 W77 | 313 | 2000 | 2.0 | | | | | | | | | |

# REGIONS OF SOLAR ACTIVITY

AUGUST 1982

BIG BEAR REGION 18518 CMP DATE 13.3 RETURN OF REGION 18481 ROTATION 2

| | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 7 | 18518 | S06 E80 | 288 | 900 | 2.0 | 23260 | S07 E77 | 293 | ( B) | 3 | H | 190 | 5 | DKC |
| 82 | 08 | 8 | 18518 | S07 E67 | 289 | 1000 | 2.0 | 23260 | S07 E62 | 294 | ( B) | 4 | H | 140 | 3 | DAO |
| 82 | 08 | 9 | 18518 | S10 E52 | 292 | 2500 | 3.0 | 23260 | S08 E48 | 295 | (BP) | 5 | H | 140 | 4 | CAO |
| 82 | 08 | 10 | 18518 | S09 E40 | 291 | 3000 | 3.5 | 23260 | S08 E35 | 296 | (BP) | 5 | H | 120 | 3 | HSX |
| 82 | 08 | 10 | 18518 | S09 E40 | 291 | 3000 | 3.5 | 23270 | S11 E41 | 290 | ( B) | 3 | H | 10 | 4 | BXO |
| 82 | 08 | 11 | 18518 | S09 E25 | 292 | 3000 | 3.5 | 23260 | S07 E21 | 297 | (BP) | 5 | H | 80 | 8 | DSO |
| 82 | 08 | 11 | 18518 | S09 E25 | 292 | 3000 | 3.5 | 23270 | S10 E27 | 291 | ( B) | 3 | H | 10 | 2 | AXX |
| 82 | 08 | 12 | 18518 | S09 E11 | 294 | 3000 | 3.0 | 23260 | S07 E07 | 297 | ( D) | 5 | H | 100 | 9 | DSO |
| 82 | 08 | 13 | 18518 | | | | | 23260 | S07 W06 | 297 | (AP) | 5 | H | 200 | 9 | DSO |
| 82 | 08 | 14 | 18518 | S09 W19 | 294 | 3000 | 3.0 | 23260 | S07 W20 | 298 | (BP) | 5 | H | 170 | 6 | CSO |
| 82 | 08 | 15 | 18518 | S08 W31 | 294 | 2700 | 2.5 | 23260 | S07 W34 | 298 | (AP) | 5 | H | 130 | 2 | AXX |
| 82 | 08 | 16 | 18518 | S09 W47 | 296 | 1800 | 3.0 | 23260 | S07 W47 | 298 | (AP) | 5 | H | 110 | 1 | HSX |
| 82 | 08 | 17 | 18518 | S09 W61 | 297 | 1500 | 2.5 | 23260 | S07 W60 | 298 | (AP) | 4 | H | 40 | 1 | HSX |
| 82 | 08 | 18 | 18518 | S09 W80 | 300 | 1200 | 2.0 | 23260 | S07 W72 | 297 | (AP) | 4 | B | 120 | 1 | HSX |

BIG BEAR REGION 18519 CMP DATE 13.9 RETURN OF REGION 18484 ROTATION 3

| | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 7 | 18519 | N17 E80 | 288 | 1200 | 2.0 | 23261 | N16 E80 | 290 | ( B) | 3 | H | 180 | 3 | DSO |
| 82 | 08 | 8 | 18519 | N17 E72 | 284 | 1800 | 2.0 | 23261 | N16 E70 | 286 | ( B) | 4 | H | 100 | 2 | DSO |
| 82 | 08 | 8 | 18519 | N17 E72 | 284 | 1800 | 2.0 | 23264 | N20 E71 | 285 | (AP) | 1 | H | 100 | 2 | DSO |
| 82 | 08 | 9 | 18519 | N16 E59 | 285 | 3800 | 3.0 | 23264 | N20 E57 | 286 | AP | 1 | H | 140 | 5 | DSO |
| 82 | 08 | 9 | 18519 | N16 E59 | 285 | 3800 | 3.0 | 23261 | N16 E57 | 286 | ( B) | 4 | H | 140 | 5 | DSO |
| 82 | 08 | 10 | 18519 | N16 E46 | 285 | 4000 | 3.0 | 23261 | N15 E44 | 287 | (BY) | 5 | H | 150 | 6 | CAO |
| 82 | 08 | 11 | 18519 | N16 E36 | 281 | 4100 | 3.0 | 23275 | N11 E35 | 283 | (AF) | 3 | H | | 1 | AXX |
| 82 | 08 | 11 | 18519 | N16 E36 | 281 | 4100 | 3.0 | 23261 | N10 E31 | 287 | ( B) | 5 | H | | 1 | AXX |
| 82 | 08 | 12 | 18519 | N16 E18 | 287 | 4200 | 3.0 | 23261 | N16 E17 | 287 | ( B) | 5 | H | 30 | 14 | CSO |
| 82 | 08 | 13 | 18519 | | | | | 23261 | N16 E05 | 286 | ( B) | 4 | H | 110 | 19 | DAO |
| 82 | 08 | 14 | 18519 | N16 W11 | 286 | 4000 | 3.5 | 23261 | N16 W08 | 286 | ( B) | 3 | H | 50 | 11 | CRO |
| 82 | 08 | 15 | 18519 | N16 W26 | 289 | 4000 | 3.0 | 23261 | N18 W21 | 285 | ( B) | 3 | H | 10 | 2 | BXO |
| 82 | 08 | 16 | 18519 | N16 W38 | 287 | 3800 | 2.5 | | | | | | | | | |
| 82 | 08 | 17 | 18519 | N16 W50 | 286 | 2000 | 2.0 | | | | | | | | | |
| 82 | 08 | 18 | 18519 | N17 W69 | 289 | 1000 | 2.5 | | | | | | | | | |
| 82 | 08 | 19 | 18519 | N17 W79 | 289 | 600 | 2.0 | | N16 W70 | | | | B | 20 | 3 | DRO |

BIG BEAR REGION 18530 CMP DATE 14.3

| | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 16 | 18530 | | | | | 23288 | N13 W28 | 279 | ( B) | 5 | H | 10 | 3 | BXO |
| 82 | 08 | 17 | 18530 | N14 W45 | 281 | 1200 | 3.5 | 23288 | N14 W41 | 279 | ( B) | 5 | H | 50 | 8 | DSO |
| 82 | 08 | 18 | 18530 | N14 W63 | 283 | 1300 | 2.5 | 23288 | N14 W55 | 280 | ( B) | 4 | B | 160 | 9 | DSO |
| 82 | 08 | 19 | 18530 | N13 W76 | 286 | 1500 | 3.0 | 23288 | N14 W68 | 280 | ( B) | 4 | H | 80 | 4 | DSO |
| 82 | 08 | 20 | 18530 | N13 W87 | 283 | 400 | 2.0 | 23288 | N14 W81 | 279 | AF | 3 | H | 20 | 2 | HSX |

BIG BEAR REGION 18528 CMP DATE 14.6

| | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 14 | 18528 | N08 W02 | 277 | 700 | 3.0 | 23281 | N08 W00 | 278 | (AF) | 3 | | | | |
| 82 | 08 | 15 | 18528 | N07 W15 | 278 | 1000 | 3.5 | 23281 | N08 W13 | 277 | ( B) | 5 | H | 30 | 16 | BXO |
| 82 | 08 | 16 | 18528 | N07 W31 | 280 | 1200 | 3.5 | 23281 | N08 W28 | 279 | ( B) | 5 | H | 60 | 15 | DRO |
| 82 | 08 | 17 | 18528 | | | | | 23281 | N08 W40 | 278 | ( B) | 4 | H | 50 | 11 | DRO |
| 82 | 08 | 18 | 18528 | N07 W62 | 282 | 1100 | 3.0 | 23281 | N08 W54 | 279 | ( B) | 4 | B | 60 | 10 | DRO |
| 82 | 08 | 19 | 18528 | N07 W75 | 285 | 1200 | 3.5 | 23281 | N08 W68 | 280 | ( B) | 4 | H | 40 | 6 | CRO |
| 82 | 08 | 20 | 18528 | N08 W85 | 281 | 600 | 2.5 | 23281 | N07 W79 | 277 | AF | 3 | H | 40 | 4 | HAX |

# REGIONS OF SOLAR ACTIVITY

AUGUST 1982

BIG BEAR REGION 18522 CMP DATE 15.5

| | | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 11 | 18522 | S13 E56 | 261 | 300 | 3.0 | 23276 | S13 E57 | 261 | ( B) | 3 | H | | 2 | AXX |
| 82 | 08 | 12 | 18522 | S13 E40 | 265 | 700 | 3.5 | 23276 | S12 E40 | 264 | ( B) | 3 | H | 10 | 5 | BXO |
| 82 | 08 | 13 | 18522 | | | | | 23276 | S12 E26 | 265 | ( B) | 4 | H | 250 | 23 | DSO |
| 82 | 08 | 14 | 18522 | S13 E13 | 262 | 2000 | 4.0 | 23276 | S12 E13 | 265 | ( B) | 5 | H | 500 | 25 | EKI |
| 82 | 08 | 15 | 18522 | S12 W03 | 266 | 2800 | 4.0 | 23276 | S12 W01 | 265 | (BY) | 5 | P | 570 | 43 | EKI |
| 82 | 08 | 16 | 18522 | S12 W17 | 266 | 2500 | 3.0 | 23276 | S11 W15 | 266 | (BY) | 5 | H | 880 | 30 | EKI |
| 82 | 08 | 17 | 18522 | S12 W31 | 267 | 2800 | 3.5 | 23276 | S12 W28 | 266 | (BY) | 6 | H | 840 | 26 | FKI |
| 82 | 08 | 18 | 18522 | S12 W47 | 267 | 3700 | 3.5 | 23276 | S12 W40 | 265 | ( D) | 6 | B | 1230 | 24 | EKI |
| 82 | 08 | 19 | 18522 | S12 W59 | 269 | 4000 | 4.0 | 23276 | S12 W55 | 267 | ( D) | 6 | H | 1190 | 28 | EKI |
| 82 | 08 | 20 | 18522 | S11 W70 | 266 | 4000 | 3.5 | 23276 | S12 W67 | 265 | ( B) | 5 | H | 1150 | 21 | EKI |
| 82 | 08 | 21 | 18522 | S12 W90 | 271 | 3000 | 3.5 | 23276 | S12 W78 | 259 | AF | 4 | H | 340 | 2 | FHO |

BIG BEAR REGION 18521 CMP DATE 16.0 RETURN OF REGION 18485 ROTATION 2

| | | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 9 | 18521 | N25 E78 | 266 | 600 | 2.0 | | | | | | | | | |
| 82 | 08 | 10 | 18521 | N25 E64 | 267 | 500 | 1.5 | | | | | | | | | |
| 82 | 08 | 12 | 18521 | N26 E39 | 266 | 1200 | 2.5 | | | | | | | | | |
| 82 | 08 | 14 | 18521 | N26 E11 | 264 | 1800 | 2.5 | | | | | | | | | |
| 82 | 08 | 15 | 18521 | N26 E03 | 260 | 2100 | 2.0 | 23286 | N24 E04 | 260 | (AF) | 2 | | | | |
| 82 | 08 | 16 | 18521 | N26 W10 | 259 | 1800 | 2.5 | 23292 | N26 W22 | 273 | (AF) | 2 | H | | 1 | AXX |
| 82 | 08 | 17 | 18521 | N27 W24 | 260 | 1800 | 2.5 | 23293 | N20 W23 | 261 | ( B) | 2 | M | 10 | 2 | BXO |
| 82 | 08 | 18 | 18521 | N27 W40 | 260 | 1700 | 2.0 | 23293 | N19 W37 | 262 | (AP) | 3 | L | 10 | 2 | BXO |
| 82 | 08 | 19 | 18521 | N27 W50 | 260 | 2000 | 2.5 | | | | | | | | | |
| 82 | 08 | 20 | 18521 | N28 W67 | 263 | 2500 | 2.0 | | | | | | | | | |
| 82 | 08 | 21 | 18521 | N28 W79 | 260 | 2500 | 2.0 | | | | | | | | | |

BIG BEAR REGION 18525 CMP DATE 17.2

| | | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 14 | 18525 | N15 E33 | 242 | 900 | 1.0 | 23282 | N15 E31 | 247 | ( B) | 3 | H | 10 | 2 | BXO |
| 82 | 08 | 15 | 18525 | N15 E19 | 244 | 700 | 2.0 | | N16 E25 | | | | L | | 2 | BXO |
| 82 | 08 | 16 | 18525 | N15 E04 | 245 | 500 | 2.0 | 23289 | N13 E10 | 241 | ( B) | 2 | | | | |
| 82 | 08 | 17 | 18525 | | | | | 23289 | N13 W06 | 244 | (BP) | 3 | R | 10 | 3 | BXO |

BIG BEAR REGION 18526 CMP DATE 18.5

| | | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 14 | 18526 | N13 E49 | 226 | 300 | 2.0 | 23283 | N14 E49 | 229 | (AP) | 3 | H | | 1 | AXX |
| 82 | 08 | 15 | 18526 | N13 E38 | 225 | 100 | 1.0 | | | | | | | | | |
| 82 | 08 | 16 | 18526 | N13 E22 | 227 | 100 | 1.0 | | | | | | | | | |
| 82 | 08 | 17 | 18526 | N14 E10 | 226 | 100 | 1.0 | | | | | | | | | |

BIG BEAR REGION 18523 CMP DATE 19.4

| | | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 14 | 18523 | S07 E69 | 206 | 1800 | 3.5 | 23284 | S04 E68 | 210 | ( B) | 3 | B | 50 | 3 | DSO |
| 82 | 08 | 15 | 18523 | S07 E56 | 207 | 3000 | 3.5 | 23284 | S05 E55 | 209 | ( B) | 4 | H | 50 | 10 | BXO |
| 82 | 08 | 16 | 18523 | S06 E39 | 210 | 2500 | 3.0 | 23284 | S04 E42 | 209 | ( B) | 4 | H | 20 | 6 | BXO |
| 82 | 08 | 17 | 18523 | S06 E24 | 212 | 2500 | 3.0 | 23284 | S04 E27 | 211 | ( B) | 2 | H | 10 | 7 | BXO |
| 82 | 08 | 18 | 18523 | S06 E08 | 212 | 2000 | 2.5 | 23284 | S04 E13 | 212 | ( B) | 4 | B | 10 | 1 | HRX |
| 82 | 08 | 19 | 18523 | S06 W05 | 215 | 1700 | 2.5 | | S04 W00 | | | | H | | 1 | AXX |
| 82 | 08 | 20 | 18523 | S06 W18 | 214 | 1500 | 2.5 | 23284 | S06 W13 | 211 | (AP) | 3 | H | 10 | 3 | BXO |
| 82 | 08 | 21 | 18523 | S06 W34 | 215 | 1400 | 2.5 | 23284 | S07 W30 | 211 | (AP) | 3 | P | 10 | 1 | AXX |
| 82 | 08 | 22 | 18523 | S06 W48 | 220 | 1000 | 2.0 | | | | | | | | | |

# REGIONS OF SOLAR ACTIVITY

AUGUST 1982

BIG BEAR REGION 18523 (CONT) CMP DATE 19.4

| | | | CALCIUM PLAGE DATA | | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 23 | 18523 | S07 W58 | 216 | 700 | 2.0 | | | | | | | | | |
| 82 | 08 | 25 | 18523 | S07 W89 | 220 | 300 | 2.0 | | | | | | | | | |

BIG BEAR REGION 18535 CMP DATE 20.1

| | | | CALCIUM PLAGE DATA | | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 21 | 18535 | S09 W24 | 205 | 100 | 2.0 | | S06 W28 | | | | P | 10 | 1 | AXX |
| 82 | 08 | 22 | 18535 | S09 W38 | 210 | 100 | 2.0 | | S07 W39 | | | | H | | 1 | AXX |

BIG BEAR REGION 18524 CMP DATE 20.6

| | | | CALCIUM PLAGE DATA | | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 14 | 18524 | S10 E89 | 186 | 300 | 3.0 | | S05 E79 | | | | H | 40 | 3 | DSO |
| 82 | 08 | 15 | 18524 | S10 E68 | 195 | 300 | 2.0 | | S05 E64 | | | | L | 50 | 5 | DSO |
| 82 | 08 | 16 | 18524 | S10 E52 | 197 | 200 | 1.5 | | | | | | | | | |
| 82 | 08 | 17 | 18524 | S09 E39 | 197 | 300 | 2.0 | | S04 E29 | | | | H | 10 | 7 | BXO |
| 82 | 08 | 18 | 18524 | S09 E22 | 198 | 300 | 1.5 | | S04 E22 | | | | L | | 1 | AXX |
| 82 | 08 | 19 | 18524 | S09 E11 | 199 | 300 | 1.0 | | S04 E08 | | | | L | | 1 | AXX |
| 82 | 08 | 20 | 18524 | S09 W03 | 199 | 400 | 1.0 | | S05 W05 | | | | L | | 2 | BXO |
| 82 | 08 | 21 | 18524 | S09 W20 | 201 | 300 | 2.0 | | S06 W28 | | | | P | 10 | 1 | AXX |
| 82 | 08 | 22 | 18524 | S09 W31 | 203 | 300 | 2.0 | 23298 | S08 W32 | 204 | (AF) | 2 | H | | 1 | AXX |
| 82 | 08 | 23 | 18524 | S10 W47 | 205 | 300 | 2.0 | | | | | | | | | |
| 82 | 08 | 25 | 18524 | S09 W76 | 207 | 300 | 2.0 | | | | | | | | | |

BIG BEAR REGION 18529 CMP DATE 21.1

| | | | CALCIUM PLAGE DATA | | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 16 | 18529 | N27 E57 | 192 | 500 | 3.0 | 23291 | N26 E59 | 192 | ( B) | 3 | H | 10 | 2 | BXO |
| 82 | 08 | 17 | 18529 | N27 E43 | 193 | 600 | 4.0 | 23291 | N26 E43 | 195 | ( B) | 5 | H | 20 | 4 | CSO |
| 82 | 08 | 18 | 18529 | N27 E26 | 194 | 1000 | 3.0 | 23291 | N26 E31 | 194 | ( B) | 5 | B | 160 | 9 | DSO |
| 82 | 08 | 19 | 18529 | N27 E15 | 195 | 1700 | 3.5 | 23291 | N26 E17 | 195 | ( B) | 5 | H | 230 | 15 | DSO |
| 82 | 08 | 20 | 18529 | N26 E03 | 193 | 1500 | 3.0 | 23291 | N26 E05 | 193 | ( B) | 4 | H | 140 | 18 | DAO |
| 82 | 08 | 21 | 18529 | N26 W13 | 194 | 2000 | 3.0 | 23291 | N26 W14 | 195 | (BP) | 4 | H | 110 | 9 | CSO |
| 82 | 08 | 22 | 18529 | N26 W27 | 199 | 1800 | 3.0 | 23291 | N26 W24 | 196 | (BP) | 4 | H | 120 | 6 | CAO |
| 82 | 08 | 23 | 18529 | N26 W36 | 194 | 1800 | 3.0 | 23291 | N25 W37 | 196 | (AP) | 4 | H | 70 | 10 | CAO |
| 82 | 08 | 24 | 18529 | | | | | | N26 W48 | | | | H | 20 | 4 | BXO |
| 82 | 08 | 25 | 18529 | N27 W65 | 196 | 1400 | 3.0 | 23291 | N25 W64 | 195 | (AP) | 3 | R | 10 | 2 | BXO |
| 82 | 08 | 26 | 18529 | N29 W78 | 197 | 500 | 2.5 | | | | | | | | | |

BIG BEAR REGION 18527 CMP DATE 21.8

| | | | CALCIUM PLAGE DATA | | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 15 | 18527 | N22 E84 | 179 | 1300 | 2.5 | | | | | | | | | |
| 82 | 08 | 16 | 18527 | N25 E60 | 189 | 1000 | 2.5 | | | | | | | | | |
| 82 | 08 | 17 | 18527 | N25 E54 | 182 | 1400 | 3.0 | 23294 | N23 E53 | 185 | (AP) | 2 | H | 20 | 4 | CSO |
| 82 | 08 | 18 | 18527 | N25 E41 | 179 | 500 | 2.5 | | | | | | | | | |
| 82 | 08 | 19 | 18527 | N25 E26 | 184 | 500 | 2.0 | | | | | | | | | |
| 82 | 08 | 20 | 18527 | N25 E14 | 182 | 700 | 1.5 | | | | | | | | | |
| 82 | 08 | 21 | 18527 | N24 W02 | 183 | 600 | 2.0 | | | | | | | | | |
| 82 | 08 | 22 | 18527 | N25 W15 | 187 | 500 | 2.0 | | | | | | | | | |
| 82 | 08 | 23 | 18527 | N25 W24 | 182 | 500 | 1.5 | | N23 W26 | | | | H | 10 | 2 | AXX |
| 82 | 08 | 24 | 18527 | | | | | | N26 W48 | | | | H | 20 | 4 | BXO |
| 82 | 08 | 25 | 18527 | N25 W51 | 182 | 500 | 2.0 | | N25 W55 | | | | L | 10 | 4 | AXX |
| 82 | 08 | 26 | 18527 | N27 W60 | 179 | 300 | 1.0 | | | | | | | | | |

# REGIONS OF SOLAR ACTIVITY

AUGUST 1982

BIG BEAR REGION 18534 CMP DATE 22.0

| | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 19 | 18534 | S03 E32 | 178 | 300 | 2.0 | | | | | | | | | |
| 82 | 08 | 20 | 18534 | S03 E18 | 178 | 300 | 1.5 | 23296 | S03 E17 | 181 | (AP) | 3 | H | 10 | 3 | BXO |
| 82 | 08 | 21 | 18534 | S03 E01 | 180 | 700 | 2.5 | 23296 | S02 E02 | 179 | ( B) | 4 | H | 10 | 3 | BXO |
| 82 | 08 | 22 | 18534 | S03 W11 | 183 | 400 | 2.5 | 23296 | S03 W08 | 180 | ( B) | 3 | H | 10 | 5 | BXO |
| 82 | 08 | 23 | 18534 | S04 W23 | 181 | 500 | 1.5 | | S03 W20 | | | | H | | 1 | AXX |
| 82 | 08 | 25 | 18534 | S03 W52 | 183 | 500 | 1.5 | | | | | | | | | |
| 82 | 08 | 26 | 18534 | S02 W66 | 185 | 300 | 1.5 | | | | | | | | | |

BIG BEAR REGION 18533 CMP DATE 22.2

| | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 18 | 18533 | S17 E43 | 177 | 300 | 1.5 | | | | | | | | | |
| 82 | 08 | 19 | 18533 | S17 E33 | 177 | 300 | 1.5 | | | | | | | | | |
| 82 | 08 | 20 | 18533 | S17 E18 | 178 | 500 | 2.0 | | | | | | | | | |
| 82 | 08 | 21 | 18533 | S17 E03 | 178 | 500 | 2.0 | | | | | | | | | |
| 82 | 08 | 22 | 18533 | S16 W10 | 182 | 400 | 2.0 | | | | | | | | | |
| 82 | 08 | 23 | 18533 | S16 W21 | 179 | 500 | 3.5 | 23300 | S14 W20 | 179 | ( B) | 3 | H | 10 | 2 | BXO |
| 82 | 08 | 24 | 18533 | | | | | | S14 W34 | | | | H | 10 | 2 | BXO |
| 82 | 08 | 25 | 18533 | S16 W50 | 181 | 300 | 2.0 | 23300 | S14 W51 | 182 | (AP) | 3 | H | 10 | 1 | AXX |
| 82 | 08 | 26 | 18533 | S18 W65 | 184 | 400 | 1.5 | | | | | | | | | |

BIG BEAR REGION 18531 CMP DATE 24.0 RETURN OF REGION 18471 ROTATION 2

| | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 17 | 18531 | S13 E79 | 157 | 1500 | 3.5 | 23295 | S12 E78 | 160 | (AP) | 3 | H | 10 | 2 | BXO |
| 82 | 08 | 18 | 18531 | S14 E68 | 152 | 4000 | 4.0 | 23295 | S13 E70 | 155 | ( B) | 4 | B | 300 | 10 | FSO |
| 82 | 08 | 19 | 18531 | S14 E59 | 151 | 4000 | 4.0 | 23295 | S12 E58 | 154 | (BY) | 5 | H | 400 | 11 | FSO |
| 82 | 08 | 20 | 18531 | S14 E45 | 151 | 4500 | 3.5 | 23295 | S12 E45 | 153 | ( B) | 5 | H | 560 | 15 | EHO |
| 82 | 08 | 21 | 18531 | S14 E28 | 153 | 4000 | 4.0 | 23295 | S12 E27 | 154 | ( B) | 5 | H | 430 | 21 | EHO |
| 82 | 08 | 22 | 18531 | S13 E16 | 156 | 4000 | 3.5 | 23295 | S12 E17 | 155 | ( B) | 5 | H | 540 | 18 | EHO |
| 82 | 08 | 23 | 18531 | S13 E04 | 154 | 3100 | 3.5 | 23295 | S12 E04 | 155 | ( B) | 5 | H | 560 | 31 | FHI |
| 82 | 08 | 24 | 18531 | | | | | | S12 W06 | | | | H | 470 | 25 | FHO |
| 82 | 08 | 25 | 18531 | S13 W26 | 157 | 3600 | 3.5 | 23295 | S12 W26 | 157 | (BP) | 5 | H | 430 | 10 | CKO |
| 82 | 08 | 26 | 18531 | S12 W38 | 157 | 4000 | 3.5 | 23295 | S12 W37 | 156 | (BP) | 5 | H | 610 | 18 | DKC |
| 82 | 08 | 27 | 18531 | S12 W54 | 159 | 3600 | 3.5 | 23295 | S12 W51 | 157 | ( B) | 5 | H | 680 | 12 | CKO |
| 82 | 08 | 28 | 18531 | S13 W66 | 158 | 3700 | 3.5 | 23295 | S12 W68 | 160 | (BP) | 5 | B | 440 | 3 | CHO |
| 82 | 08 | 29 | 18531 | S13 W80 | 159 | 2500 | 3.5 | 23295 | S12 W79 | 158 | (AP) | 4 | H | 390 | 1 | HSX |

BIG BEAR REGION 18504 CMP DATE 24.8

| | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 21 | 18504 | N13 E39 | 142 | 500 | 2.0 | | N15 E45 | | | | H | 10 | 3 | BXO |
| 82 | 08 | 22 | 18504 | N13 E27 | 145 | 400 | 2.0 | 23299 | N14 E20 | 152 | (AP) | 3 | B | 10 | 5 | BXO |
| 82 | 08 | 23 | 18504 | N14 E17 | 141 | 600 | 2.5 | 23299 | N15 E18 | 141 | ( B) | 3 | H | 30 | 6 | BXO |
| 82 | 08 | 24 | 18504 | | | | | | N14 E03 | | | | H | 10 | 3 | BXO |
| 82 | 08 | 25 | 18504 | N15 W12 | 143 | 500 | 2.5 | | N15 W11 | | | | H | 10 | 1 | AXX |
| 82 | 08 | 26 | 18504 | N15 W22 | 141 | 700 | 2.5 | | N14 W24 | | | | H | | 1 | AXX |
| 82 | 08 | 27 | 18504 | N16 W38 | 143 | 700 | 3.0 | 23307 | N14 W36 | 142 | ( B) | 3 | H | 10 | 2 | BXO |
| 82 | 08 | 28 | 18504 | N16 W54 | 146 | 500 | 2.5 | | | | | | | | | |

# REGIONS OF SOLAR ACTIVITY

## AUGUST 1982

BIG BEAR REGION 18536 CMP DATE 24.9

| | | | CALCIUM PLAGE DATA | | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 25 | 18536 | N23 W10 | 141 | 1100 | 3.5 | 23302 | N23 W08 | 139 | ( B) | 4 | H | 170 | 11 | DAO |
| 82 | 08 | 26 | 18536 | N23 W22 | 141 | 1800 | 3.5 | 23302 | N23 W22 | 141 | ( B) | 4 | H | 320 | 20 | DAO |
| 82 | 08 | 27 | 18536 | N23 W38 | 143 | 2400 | 3.5 | 23302 | N23 W35 | 141 | ( B) | 4 | H | 380 | 18 | EAO |
| 82 | 08 | 28 | 18536 | | | | | 23302 | N23 W49 | 141 | ( B) | 4 | B | 200 | 14 | DRO |
| 82 | 08 | 29 | 18536 | N23 W63 | 142 | 3000 | 3.5 | 23302 | N23 W61 | 140 | ( B) | 4 | H | 340 | 15 | DAO |
| 82 | 08 | 30 | 18536 | N23 W79 | 144 | 3000 | 3.0 | 23302 | N23 W75 | 141 | ( B) | 4 | H | 230 | 11 | EAO |
| 82 | 08 | 31 | 18536 | N23 W90 | 143 | 1200 | 3.5 | 23302 | N25 W85 | 138 | AF | 1 | H | 40 | 3 | DSO |

BIG BEAR REGION 18532 CMP DATE 25.8 RETURN OF REGION 18476 ROTATION 2

| | | | CALCIUM PLAGE DATA | | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 20 | 18532 | N13 E74 | 122 | 500 | 3.0 | 23297 | N14 E69 | 129 | (AP) | 3 | H | 10 | 2 | BXO |
| 82 | 08 | 21 | 18532 | N13 E49 | 132 | 1800 | 3.5 | 23297 | N15 E52 | 129 | ( B) | 4 | H | 70 | 17 | CRO |
| 82 | 08 | 22 | 18532 | N13 E34 | 138 | 2500 | 3.5 | 23297 | N15 E42 | 130 | ( B) | 5 | H | 510 | 19 | CKI |
| 82 | 08 | 23 | 18532 | N15 E26 | 132 | 2800 | 3.5 | 23297 | N15 E29 | 130 | ( B) | 5 | H | 810 | 41 | EKI |
| 82 | 08 | 24 | 18532 | | | | | | N15 E17 | | | | H | 940 | 30 | EKI |
| 82 | 08 | 25 | 18532 | N15 E01 | 130 | 3200 | 3.5 | 23297 | N15 E03 | 128 | ( B) | 5 | B | 660 | 37 | DHI |
| 82 | 08 | 26 | 18532 | N15 W11 | 130 | 3500 | 3.5 | 23297 | N15 W10 | 129 | ( B) | 5 | H | 780 | 42 | DHI |
| 82 | 08 | 27 | 18532 | N15 W26 | 131 | 3600 | 3.5 | 23297 | N15 W23 | 129 | ( B) | 5 | M | 1140 | 34 | DKI |
| 82 | 08 | 28 | 18532 | N15 W38 | 130 | 3500 | 3.5 | 23297 | N15 W38 | 130 | ( B) | 5 | B | 900 | 26 | DKI |
| 82 | 08 | 29 | 18532 | N15 W51 | 130 | 3800 | 3.5 | 23297 | N15 W50 | 129 | (BY) | 6 | H | 770 | 24 | DKI |
| 82 | 08 | 30 | 18532 | N15 W64 | 129 | 3800 | 3.5 | 23297 | N14 W64 | 130 | ( D) | 5 | H | 1040 | 16 | EKI |
| 82 | 08 | 31 | 18532 | N15 W80 | 133 | 2800 | 3.5 | 23297 | N14 W76 | 129 | ( B) | 3 | H | 210 | 11 | EKI |

BIG BEAR REGION 18537 CMP DATE 27.8 RETURN OF REGION 18480 ROTATION 4

| | | | CALCIUM PLAGE DATA | | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 23 | 18537 | S10 E56 | 102 | 800 | 1.5 | 23301 | S09 E37 | 122 | (AP) | 3 | | | | |
| 82 | 08 | 25 | 18537 | S11 E30 | 101 | 1400 | 2.0 | | | | | | | | | |
| 82 | 08 | 26 | 18537 | S11 E14 | 105 | 1400 | 2.0 | | | | | | | | | |
| 82 | 08 | 27 | 18537 | S11 E01 | 104 | 1300 | 2.0 | | | | | | | | | |
| 82 | 08 | 29 | 18537 | S11 W26 | 105 | 1200 | 1.0 | | | | | | | | | |
| 82 | 08 | 30 | 18537 | S11 W41 | 106 | 1200 | 1.0 | | | | | | | | | |
| 82 | 08 | 31 | 18537 | S11 W54 | 107 | 1000 | 1.0 | | | | | | | | | |

BIG BEAR REGION 18546 CMP DATE 27.9

| | | | CALCIUM PLAGE DATA | | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 28 | 18546 | N08 W10 | 102 | 1000 | 2.0 | 23308 | N09 W11 | 103 | ( B) | 4 | B | 60 | 12 | DRI |
| 82 | 08 | 29 | 18546 | N08 W24 | 103 | 1000 | 3.0 | 23308 | N08 W23 | 102 | ( B) | 5 | H | 170 | 14 | DSI |
| 82 | 08 | 30 | 18546 | N08 W38 | 103 | 1100 | 3.0 | 23308 | N08 W37 | 103 | ( B) | 5 | H | 170 | 10 | DSO |
| 82 | 08 | 31 | 18546 | N08 W52 | 105 | 1200 | 3.0 | 23308 | N08 W50 | 103 | ( B) | 4 | H | 90 | 10 | DSO |

BIG BEAR REGION 18539 CMP DATE 29.0

| | | | CALCIUM PLAGE DATA | | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 24 | 18539 | | | | | | N08 E59 | | | | H | 50 | 4 | DRO |
| 82 | 08 | 25 | 18539 | N08 E45 | 86 | 1300 | 3.5 | 23303 | N07 E45 | 86 | ( B) | 4 | H | 90 | 8 | CSO |
| 82 | 08 | 26 | 18539 | N08 E32 | 87 | 1300 | 2.5 | 23303 | N08 E32 | 87 | ( B) | 4 | H | 1120 | 17 | DSO |
| 82 | 08 | 27 | 18539 | N08 E17 | 88 | 1400 | 3.0 | 23303 | N08 E19 | 87 | ( B) | 4 | H | 120 | 13 | CSO |
| 82 | 08 | 28 | 18539 | N08 E04 | 88 | 1400 | 3.5 | 23303 | N08 E04 | 88 | ( B) | 4 | B | 50 | 5 | DSO |
| 82 | 08 | 29 | 18539 | N08 W09 | 88 | 1500 | 3.5 | 23303 | N08 W08 | 87 | ( B) | 5 | H | 70 | 5 | CSO |
| 82 | 08 | 30 | 18539 | N08 W22 | 87 | 1400 | 2.5 | 23303 | N07 W18 | 84 | (AF) | 4 | H | 80 | 3 | HSX |
| 82 | 08 | 31 | 18539 | N08 W37 | 90 | 1300 | 2.5 | 23303 | N07 W32 | 85 | (AF) | 3 | H | 10 | 3 | AXX |

# REGIONS OF SOLAR ACTIVITY

## AUGUST 1982

BIG BEAR REGION 18538 CMP DATE 29.5

| | | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 25 | 18538 | N19 E51 | 80 | 700 | 2.0 | | | | | | | | | |
| 82 | 08 | 26 | 18538 | N17 E39 | 80 | 400 | 1.5 | | N12 E32 | | | | H | 1120 | 17 | DSO |
| 82 | 08 | 27 | 18538 | N18 E24 | 81 | 400 | 1.5 | | | | | | | | | |
| 82 | 08 | 28 | 18538 | N18 E12 | 80 | 400 | 1.5 | | | | | | | | | |
| 82 | 08 | 29 | 18538 | N18 W02 | 81 | 600 | 1.5 | | | | | | | | | |
| 82 | 08 | 30 | 18538 | N18 W17 | 82 | 400 | 1.0 | | | | | | | | | |
| 82 | 08 | 31 | 18538 | N19 W30 | 83 | 500 | 1.0 | | | | | | | | | |

BIG BEAR REGION 18541 CMP DATE 30.1 RETURN OF REGION 18492 ROTATION 3

| | | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 25 | 18541 | S11 E56 | 75 | 1100 | 2.5 | | | | | | | | | |
| 82 | 08 | 26 | 18541 | S12 E48 | 71 | 1900 | 2.5 | | | | | | | | | |
| 82 | 08 | 27 | 18541 | S12 E27 | 78 | 1800 | 2.5 | | S11 E22 | | | | H | | 1 | AXX |
| 82 | 08 | 28 | 18541 | S12 E21 | 71 | 2000 | 1.5 | | | | | | | | | |
| 82 | 08 | 29 | 18541 | S12 E09 | 70 | 2100 | 1.5 | 23310 | S11 W03 | 82 | (AP) | 3 | | | | |
| 82 | 08 | 30 | 18541 | S12 W08 | 73 | 2200 | 1.5 | | S12 W11 | | | | L | | 2 | AXX |
| 82 | 08 | 31 | 18541 | S12 W19 | 72 | 2700 | 2.0 | | | | | | | | | |

BIG BEAR REGION 18543 CMP DATE 30.6

| | | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 25 | 18543 | S22 E67 | 64 | 500 | 2.5 | | | | | | | | | |
| 82 | 08 | 26 | 18543 | S22 E55 | 64 | 700 | 3.0 | | S23 E56 | | | | H | 10 | 2 | AXX |
| 82 | 08 | 27 | 18543 | S22 E39 | 66 | 600 | 2.5 | | | | | | | | | |
| 82 | 08 | 28 | 18543 | S22 E28 | 64 | 600 | 2.0 | | | | | | | | | |
| 82 | 08 | 29 | 18543 | S23 E13 | 66 | 400 | 2.5 | | | | | | | | | |
| 82 | 08 | 30 | 18543 | S23 W01 | 66 | 300 | 2.0 | | | | | | | | | |
| 82 | 08 | 31 | 18543 | S22 W13 | 66 | 300 | 2.5 | | | | | | | | | |

BIG BEAR REGION 18540 CMP DATE 31.0

| | | | | CALCIUM PLAGE DATA | | | | | SUNSPOT DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| YR | MO | DA | BB NO. | LAT CMD | L | AREA | INT | MW NO. | LAT CMD | L | MAG. | H | STA | AREA | CNT | CLASS |
| 82 | 08 | 25 | 18540 | N07 E76 | 55 | 1000 | 3.5 | 23304 | N07 E68 | 63 | ( B) | 3 | H | 20 | 1 | HRX |
| 82 | 08 | 26 | 18540 | N06 E59 | 60 | 1100 | 3.0 | 23304 | N07 E56 | 63 | ( B) | 4 | H | 70 | 3 | CRO |
| 82 | 08 | 27 | 18540 | N06 E44 | 61 | 1000 | 3.0 | 23304 | N07 E43 | 63 | ( B) | 3 | H | 20 | 3 | BXO |
| 82 | 08 | 28 | 18540 | N06 E32 | 60 | 800 | 2.5 | 23304 | N08 E26 | 66 | (AP) | 3 | B | 10 | 1 | HSX |
| 82 | 08 | 29 | 18540 | N06 E18 | 61 | 800 | 2.0 | 23304 | N07 E13 | 66 | (AP) | 4 | H | 10 | 1 | AXX |
| 82 | 08 | 30 | 18540 | N06 E04 | 61 | 600 | 1.5 | 23304 | N07 W00 | 66 | (AP) | 4 | B | | 1 | AXX |
| 82 | 08 | 31 | 18540 | N07 W09 | 62 | 600 | 1.5 | | N07 W08 | | | | M | | 1 | AXX |

NOTE: No solar magnetograms were made at Kitt Peak National Observatory on August 2, 5, and 10-29, 1982. On these dates calcium spectroheliograms from Mt. Wilson Observatory were used: August 9-12, 14, 15, 17, 21, 25 and 31, 1982. Calcium plage data are missing on August 6, 13 and 24, 1982. No Mt. Wilson sunspot data were available for August 24, 1982.

CONTIGUOUS PLAGES FOR AUGUST 1982: 18519/18528/18530
18549/18550/18551

DAILY CALCIUM PLAGE INDEX
August 1982

| Yr | Mo | Day | Index | Yr | Mo | Day | Index | Yr | Mo | Day | Index |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 82 | 8 | 1 | 17.3 | 82 | 8 | 11 | 106.0 | 82 | 8 | 21 | 32.0 |
| 82 | 8 | 2 | 23.8 | 82 | 8 | 12 | 92.2 | 82 | 8 | 22 | 29.6 |
| 82 | 8 | 3 | 25.9 | 82 | 8 | 13 | * | 82 | 8 | 23 | 28.9 |
| 82 | 8 | 4 | 30.5 | 82 | 8 | 14 | 79.3 | 82 | 8 | 24 | * |
| 82 | 8 | 5 | 49.7 | 82 | 8 | 15 | 66.1 | 82 | 8 | 25 | 38.3 |
| 82 | 8 | 6 | * | 82 | 8 | 16 | 38.3 | 82 | 8 | 26 | 41.4 |
| 82 | 8 | 7 | 61.6 | 82 | 8 | 17 | 31.6 | 82 | 8 | 27 | 41.1 |
| 82 | 8 | 8 | 72.6 | 82 | 8 | 18 | 28.9 | 82 | 8 | 28 | 33.9 |
| 82 | 8 | 9 | 88.9 | 82 | 8 | 19 | 31.5 | 82 | 8 | 29 | 39.9 |
| 82 | 8 | 10 | 109.0 | 82 | 8 | 20 | 27.2 | 82 | 8 | 30 | 33.6 |
| | | | | | | | | 82 | 8 | 31 | 45.5 |

* = No Observations

# SUDDEN IONOSPHERIC DISTURBANCES

## August 1982

| Day | Start (UT) | Max (UT) | End (UT) | Imp | Wide-spread Index | Number of Station Reports by Type SWF | SEA | SPA | LF-SPA | SES | Known Flare | Hale Region |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0700 | 0728 | 0950 | 2 | 5 | | 2 | 1 | 2 | 1 | NF | |
| 01 | 1026 | 1054 | 1156 | 1- | 1 | | | | | | * | |
| 01 | 2329 | 2335 | 0000 | 1 | 3 | | | | | 2 | NF | |
| 02 | 0401 | 0488U | 0600 | 1- | 3 | | 1 | | | 1 | * | |
| 02 | 0712 | 0718 | 0754 | 1- | 3 | | 1 | 1 | | | NF | |
| 02 | 0806 | 0818 | 0940 | 1- | 3 | | 1 | 1 | 1 | | 0805 | 18492 |
| 02 | 1003 | 1037 | 1236 | 2+ | 3 | 1 | 2 | 1 | 1 | 1 | NF | |
| 02 | 1618 | 1630 | 1715 | 1- | 5 | 3 | 2 | 1 | 1 | 9 | 1620E | 18480 |
| 02 | 1718 | 1738 | 1755 | 1- | 5 | 1 | 1 | 1 | 1 | 15 | 1714 | 18492 |
| 02 | 1823 | 1828 | 1835 | 1- | 3 | | | 1 | | 8 | 1759 | 18492 |
| 02 | 2109 | 2116 | 2130 | 1 | 3 | | | | | 3 | NF | |
| 03 | 0114 | 0128 | 0214 | 1- | 3 | | | 1 | 1 | 1 | NF | |
| 03 | 0454 | 0510 | 0641D | 1- | 3 | | | 1 | 1 | 2 | * | |
| 03 | 1301 | 1304 | 1320 | 1- | 3 | | | | | 5 | NF | |
| 03 | 1550 | 1600 | 1630 | 1+ | 3 | | | | | 9 | NF | |
| 03 | 1828 | 1834 | 1930 | 2+ | 3 | 1 | | 1 | | 15 | 1832 | 18495 |
| 04 | 0222 | 0227 | 0252 | 1- | 3 | | | 1 | 1 | | 0223 | 18492 |
| 04 | 0408 | 0440 | 0550 | 1 | 3 | | | 1 | 1 | | NF | |
| 04 | 0621 | 0632 | 0713 | 1- | 3 | | | 1 | | 1 | 0606 | 18492 |
| 04 | 1008 | 1019 | 1055 | 1- | 3 | 2 | | 1 | 1 | 1 | * | |
| 04 | 1352 | 1402 | 1435 | 1- | 5 | 1 | | | 1 | 8 | NF | |
| 04 | 1814 | 1832 | 1913 | 1- | 1 | | | 1 | | 1 | 1802 | 18495 |
| 04 | 2341 | 2350 | 0040 | 1- | 3 | 1 | | 1 | 1 | 3 | 2340 | 18492 |
| 05 | 0110 | 0117 | 0154 | 1- | 3 | | | 1 | 1 | 1 | NF | |
| 05 | 0342 | 0350 | 0547 | 2+ | 3 | 1 | | 1 | 1 | 5 | * | |
| 05 | 1139 | 1143 | 1240 | 1- | 3 | | 1 | | 1 | | * | |
| 05 | 1717 | 1730 | 1745 | 1 | 3 | | | | | 4 | * | |
| 05 | 1753 | 1800 | 1815 | 1 | 3 | | | | | 4 | * | |
| 05 | 2127 | 2134 | 2224 | 1- | 3 | | | 1 | 1 | 3 | * | |
| 06 | 0155 | 0159 | 0210U | 1- | 1 | | | | 1 | | 0155 | No data |
| 06 | 0743 | 0809 | 0850 | 1- | 3 | | 1 | 1 | | | 0743 | No data |
| 06 | 1122 | 1130 | 1155 | 1- | 3 | 1 | | 1 | 1 | 3 | * | |
| 06 | 1340 | 1345 | 1400 | 1- | 3 | | | | | 6 | 1341 | No data |
| 06 | 1438 | 1446 | 1535 | 2+ | 3 | | | | | 3 | 1445E | No data |
| 06 | 1635 | 1649 | 1715 | 1 | 3 | | | | | 9 | 1632 | No data |
| 06 | 2326 | 2336 | 0122 | 1 | 5 | 3 | | 1 | | 5 | 2319 | No data |
| 07 | 0135 | 0150 | 0215 | 1+ | 3 | | | | | 2 | NF | |
| 07 | 0250 | 0307 | 0329 | 1- | 3 | | | 1 | 1 | | 0248 | 18511 |
| 07 | 0331 | 0350 | 0500 | 1 | 3 | | | 1 | 1 | 1 | 0352E | 18511 |
| 07 | 0805 | 0809 | 0926 | 1- | 3 | 1 | | 1 | 2 | | 0803 | 18511 |
| 07 | 1157 | 1209 | 1334 | 1- | 5 | 3 | 1 | 1 | 1 | 5 | * | |
| 07 | 1433 | 1510 | 1545 | 1+ | 3 | | | | | 4 | NF | |
| 07 | 2001 | 2017 | 2115 | 1- | 3 | | | 1 | | 10 | 2006 | 18508 |
| 07 | 2148 | 2154 | 2220 | 1- | 3 | | | 1 | | 1 | * | |
| 08 | 0017 | 0025 | 0032D | 1- | 3 | | | 1 | 1 | 1 | 0018 | 18492 |
| 08 | 0053E | 0057 | 0145 | 1- | 3 | | | 1 | 1 | 1 | 0058E | 18492 |
| 08 | 0204 | 0210 | 0240 | 3+ | 3 | 2 | | 1 | 1 | 5 | 0204 | 18492 |
| 08 | 0440 | 0522 | 0610 | 1- | 3 | | | 1 | 1 | 1 | 0445 | 18511 |
| 08 | 0702 | 0708 | 0812 | 1- | 3 | | 2 | 1 | | | 0705 | 18520 |
| 08 | 0918 | 0934 | 1022 | 1 | 5 | 3 | 3 | 1 | 2 | 1 | * | |
| 08 | 1037 | 1042 | 1100 | 1- | 3 | 1 | | | 1 | 1 | * | |
| 08 | 1547 | 1601 | 1624 | 1- | 5 | 4 | | | 1 | 13 | 1546 | 18511 |
| 08 | 1645 | 1700 | 1730 | 2 | 5 | 1 | 2 | | | 11 | 1645 | 18492 |
| 09 | 0152 | 0214 | 0415 | 1 | 3 | | | 1 | 1 | 1 | 0152 | 18511 |
| 09 | 0648 | 0659 | 0905 | 3+ | 5 | 3 | | 1 | 1 | 2 | 0650E | 18511 |
| 09 | 1648 | 1653 | 1710 | 1- | 3 | | 1 | | | 1 | 1641 | 18518 |
| 09 | 2122 | 2144 | 2237 | 1- | 3 | 1 | | 1 | | 1 | 2122 | 18492 |
| 09 | 2313 | 2316 | 2356 | 1- | 1 | | | 1 | | | 2310 | 18511 |

# SUDDEN IONOSPHERIC DISTURBANCES

## August 1982

| Day | Start (UT) | Max (UT) | End (UT) | Imp | Wide-spread Index | Number of Station Reports by Type | | | | | Known Flare | Hale Region |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SWF | SEA | SPA | LF-SPA | SES | | |
| 10 | 0212 | 0222 | 0330 | 1- | 3 | | | 1 | 1 | 2 | 0212E | 18518 |
| 10 | 0514 | 0537 | 0654 | 2+ | 5 | 3 | 1 | 1 | 2 | 5 | 0518E | 18511 |
| 10 | 0724 | 0733 | 0926 | 1 | 3 | 2 | | 1 | 1 | 3 | 0724 | 18511 |
| 10 | 0934 | 0942 | 1000 | 1 | 3 | 1 | 1 | | 1 | | NF | |
| 10 | 1028 | 1036 | 1230 | 2 | 3 | 3 | 3 | | 1 | 2 | 1027 | 18511 |
| 10 | 1333 | 1348 | 1420 | 1- | 3 | 2 | 2 | 1 | 1 | 2 | 1325E | 18511 |
| 10 | 1500 | 1502 | 1511D | 1- | 3 | | | 1 | | 2 | 1500 | 18511 |
| 10 | 1519 | 1530 | 1600 | 1- | 3 | 2 | | 1 | | 3 | 1513 | 18519 |
| 10 | 1608 | 1630 | 1715 | 2+ | 3 | | | | | 3 | NF | |
| 10 | 1815 | 1831 | 1930 | 1 | 3 | | | | | 6 | NF | |
| 10 | 2254 | 2317 | 2356 | 1- | 3 | | | 1 | | 1 | 2253 | 18511 |
| 11 | 0534 | 0550 | 0614 | 1- | 1 | | | 1 | | | 0520 | 18511 |
| 11 | 0616 | 0622 | 0645 | 1- | 1 | | | 1 | | | 0616 | 18511 |
| 11 | 0846 | 0854 | 0910 | 1- | 3 | 1 | | 1 | 1 | 1 | 0845 | 18511 |
| 11 | 1138 | 1144 | 1227 | 1- | 5 | 3 | 4 | 1 | 1 | 2 | * | |
| 11 | 1724 | 1730 | 1740 | 1- | 1 | | 1 | | | | 1729 | 18511 |
| 12 | 0351 | 0357 | 0502 | 1 | 3 | 1 | | 1 | 1 | 1 | 0351 | 18515 |
| 12 | 0502 | 0514 | 0535 | 1- | 1 | | | 1 | | | 0502 | 18511 |
| 12 | 0535 | 0546 | 0710 | 1- | 1 | | | 1 | | | 0536 | 18511 |
| 12 | 0938 | 0953 | 1013 | 1- | 1 | | | 1 | | | 0944 | 18511 |
| 12 | 1055 | 1115 | 1138 | 1- | 1 | | | 1 | | | 1050E | 18511 |
| 12 | 1431 | 1455U | 1600 | 1 | 3 | | 2 | | | | 1427 | 18515 |
| 13 | 0534 | 0556 | 0718 | 1- | 3 | | | 1 | | 1 | 0542 | 18518 |
| 13 | 0738 | 0801 | 1004 | 1- | 3 | | | 1 | 2 | 1 | 0740 | 18511 |
| 13 | 1343 | 1347 | 1352 | 1- | 1 | 1 | | | | | 1343 | No data |
| 13 | 1536 | 1543 | 1600 | 1- | 5 | | | | 1 | 11 | 1533 | No data |
| 13 | 1820 | 1822 | 1833 | 1- | 3 | | | | | 4 | 1827E | No data |
| 13 | 2301 | 2307 | 0012 | 1 | 5 | 2 | | 1 | | 9 | 2301 | No data |
| 14 | 0020 | 0027 | 0108 | 1- | 1 | | | 1 | | | 0017E | 18520 |
| 14 | 0241 | 0251 | 0400 | 2+ | 3 | 1 | | 1 | 1 | 6 | 0240 | 18511 |
| 14 | 0401 | 0407 | 0506 | 2+ | 3 | 1 | | 1 | 1 | 6 | 0359 | 18511 |
| 14 | 0506 | 0511 | 0700 | 3+ | 5 | 4 | | 1 | 2 | 6 | 0507 | 18511 |
| 14 | 1648 | 1705 | 1735 | 1- | 1 | | | | | 1 | 1636 | 18523 |
| 14 | 2340 | 2344 | 0030 | 1- | 1 | | | 1 | | | 2336 | 18511 |
| 15 | 0646 | 0659 | 0744 | 1- | 1 | | | 1 | | | 0646E | 18511 |
| 15 | 1540 | 1546 | 1600 | 1 | 1 | | | | | 1 | 1540 | 18522 |
| 15 | 2247 | 2259 | 2303 | 1 | 1 | 1 | | | | | 2240 | 18518 |
| 15 | 2328 | 2334 | 0004 | 1- | 1 | | | 1 | | | 2327 | 18522 |
| 16 | 0204 | 0214 | 0316 | 1- | 3 | | | 1 | 1 | | 0203 | 18511 |
| 16 | 0450 | 0501 | 0534 | 1- | 1 | | | 1 | | | 0448 | 18522 |
| 17 | 0038 | 0044 | 0106 | 1- | 1 | | | 1 | | | 0038 | 18528 |
| 17 | 0648 | 0655 | 0722 | 1- | 3 | 1 | | 1 | 1 | 1 | * | |
| 17 | 1518 | 1522 | 1555 | 1- | 5 | 5 | 4 | 1 | 1 | 8 | 1524E | 18531 |
| 17 | 1602 | 1607 | 1618 | 1 | 3 | 1 | 2 | | | | 1607 | 18530 |
| 17 | 1749 | 1807 | 1845 | 1- | 3 | 1 | | | 1 | 7 | 1746 | 18530 |
| 17 | 2028 | 2036 | 2050 | 1- | 3 | | | | | 3 | 2026 | 18531 |
| 17 | 2155 | 2201 | 2225 | 1- | 1 | | | 1 | | | 2153 | 18530 |
| 18 | 0104 | 0113 | 0216 | 1- | 3 | | | 1 | 1 | 1 | 0101 | 18522 |
| 18 | 0347 | 0357 | 0445 | 1- | 1 | | | 1 | | | 0348 | 18521 |
| 18 | 0503 | 0518 | 0609 | 1- | 3 | | | 1 | 1 | | NF | |
| 18 | 0748 | 0800 | 1008 | 2 | 3 | 2 | 3 | 1 | 2 | 1 | 0746 | 18531 |
| 18 | 1123 | 1135 | 1200 | 1- | 3 | 1 | 2 | | 1 | 1 | 1124 | 18531 |
| 18 | 1347 | 1354 | 1407 | 1 | 3 | | 1 | 1 | | | 1346 | 18531 |
| 18 | 1446 | 1453 | 1515 | 1- | 3 | 1 | 3 | 1 | 1 | 4 | 1441 | 18531 |
| 18 | 1812 | 1820 | 1900 | 1- | 3 | | | 1 | | 8 | * | |
| 18 | 1910 | 1918 | 2015 | 1- | 3 | 1 | | | | 12 | * | |
| 18 | 2346 | 0014 | 0045 | 1- | 1 | | | 1 | | | 2348 | 18531 |

# SUDDEN IONOSPHERIC DISTURBANCES

August 1982

| Day | Start (UT) | Max (UT) | End (UT) | Imp | Wide-spread Index | Number of Station Reports by Type SWF | SEA | SPA | LF-SPA | SES | Known Flare | Hale Region |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19 | 0048 | 0055 | 0103U | 1- | 3 | | | 1 | 1 | | NF | |
| 19 | 0220 | 0236 | 0304 | 1- | 3 | | | 1 | 1 | 1 | 0230 | 18527 |
| 19 | 0307 | 0324 | 0427 | 1- | 3 | | | 1 | 1 | 1 | 0310 | 18531 |
| 19 | 0508 | 0513 | 0533 | 1- | 3 | | | 1 | 1 | 1 | 0509 | 18531 |
| 19 | 0610 | 0620 | 0640 | 1- | 1 | | | 1 | | | 0612 | 18522 |
| 19 | 0643 | 0648 | 0800 | 1- | 3 | 1 | | 1 | 2 | 2 | 0639 | 18531 |
| 19 | 1600 | 1622 | 1715 | 1- | 3 | | | 1 | | 4 | 1550 | 18531 |
| 20 | 0125 | 0128 | 0148 | 1- | 1 | | | 1 | | | NF | |
| 20 | 0309 | 0314 | 0336 | 1- | 1 | | | 1 | | | 0309 | 18531 |
| 20 | 0505 | 0517 | 0546 | 1- | 3 | | | 1 | 1 | | NF | |
| 20 | 0554 | 0601 | 0640 | 1- | 3 | | | 1 | 1 | | 0556 | 18522 |
| 21 | 0014 | 0035 | 0124 | 1- | 1 | | | 1 | | | 0015 | 18523 |
| 21 | 1323 | 1345 | 1425 | 1- | 3 | 1 | | 1 | | 5 | * | |
| 21 | 1607 | 1614 | 1650 | 1 | 3 | | | | | 3 | 1559 | 18532 |
| 22 | 0435 | 0443 | 0625 | 1- | 3 | | | 1 | 1 | 1 | 0435 | 18532 |
| 22 | 0810 | 0852 | 0920 | 1 | 1 | | 1 | | | | 0807 | 18532 |
| 22 | 1437 | 1454 | 1525 | 1- | 3 | | 1 | 1 | | | 1430 | 18532 |
| 23 | 0216 | 0222 | 0240 | 1- | 3 | | | 1 | 1 | | 0217 | 18532 |
| 24 | 0312 | 0329 | 0412U | 1- | 3 | | | 1 | 1 | | * | |
| 24 | 1440 | 1442 | 1503 | 1 | 1 | | 1 | | | | 1438 | 18532 |
| 26 | 0257 | 0313 | 0410 | 1- | 3 | | 1 | 1 | 1 | | 0302 | 18532 |
| 26 | 1428 | 1437 | 1500 | 1 | 3 | 1 | 2 | | | 6 | 1424 | 18532 |
| 26 | 2147 | 2209 | 2248 | 1- | 1 | | | 1 | | | 2147 | 18532 |
| 26 | 2257 | 2308 | 2344 | 1 | 5 | 3 | | 1 | 1 | 6 | NF | |
| 26 | 2359 | 0011 | 0116 | 1- | 3 | | | 1 | | 1 | NF | |
| 27 | 0139 | 0147 | 0258 | 1 | 3 | 1 | | 1 | 1 | 4 | 0138 | 18532 |
| 27 | 0319 | 0330 | 0449 | 1 | 1 | | | 1 | | | 0319 | 18532 |
| 27 | 0325 | 0332 | 0500 | 1 | 3 | 1 | | | 1 | 4 | 0323 | 18532 |
| 27 | 0546 | 0555 | 0713 | 1 | 5 | 2 | 3 | | 2 | 4 | 0543 | 18532 |
| 27 | 0909 | 0920 | 1012 | 2+ | 5 | 3 | 3 | 1 | 2 | 2 | 0911 | 18532 |
| 27 | 1320 | 1322 | 1345 | 1 | 1 | | | | | 1 | 1318 | 18532 |
| 27 | 1430 | 1432 | 1445 | 1- | 1 | | | | | 1 | 1430 | 18532 |
| 27 | 1516 | 1517 | 1530 | 1- | 1 | | | | | 1 | 1513 | 18532 |
| 27 | 2012 | 2017 | 2045 | 1- | 3 | | | 1 | | 1 | 2009 | 18532 |
| 28 | 0509 | 0514 | 0633 | 1- | 3 | | | 1 | 1 | 2 | * | |
| 28 | 0641 | 0651 | 0800 | 1- | 3 | | 1 | 1 | 1 | | 0640 | 18531 |
| 28 | 1147 | 1203 | 1250 | 1- | 3 | | 1 | 1 | | | 1149 | 18545 |
| 28 | 1626 | 1635 | 1705 | 1- | 3 | | | 1 | | 2 | * | |
| 28 | 1748 | 1752 | 1830 | 1- | 3 | | | 1 | | 9 | 1742 | 18546 |
| 29 | 0250 | 0317 | 0538 | 1 | 3 | | | 1 | 1 | 5 | NF | |
| 29 | 0549 | 0557 | 0630 | 1- | 3 | | | 1 | 1 | 2 | 0551 | 18532 |
| 29 | 1749 | 1800 | 1830 | 1 | 3 | | | | | 4 | 1748 | 18531 |
| 30 | 0015 | 0022 | 0049 | 1- | 1 | | | 1 | | | 0016 | 18531 |
| 31 | 0003 | 0025 | 0122 | 1- | 3 | | | 1 | 1 | 1 | 2358 | 18532 |
| 31 | 0147 | 0208 | 0246 | 1 | 3 | | | 1 | 1 | 3 | 0146 | 18545 |
| 31 | 0312 | 0327 | 0430 | 1- | 3 | | | 1 | 1 | | 0305 | 18532 |
| 31 | 0506 | 0611 | 0947 | 2+ | 5 | 2 | 1 | 1 | 1 | 3 | NF | |
| 31 | 0556 | 0612 | 0645 | 2+ | 3 | 3 | | | 2 | | 0550 | 18551 |
| 31 | 1724 | 1739 | 1930 | 2 | 3 | | 1 | 1 | | 7 | * | |

* = No Flare Patrol
NF = No Flare Reported

REPORTING OBSERVATORIES FOR AUGUST 1982*

| | | | |
|---|---|---|---|
| Ayrshire, Scotland (AY) | SES | Missoula, Montana, USA (A31) | SWS, SWF |
| Darmstadt, GFR (DA) | SWF | Naturena, Transvaal, S. Africa (NA) | SES |
| Frenchtown, Montana, USA (A56) | SES | Panska Ves, Czechoslovakia (PU) | SEA, SWF, SFA |
| Glenorchy, Tasmania, Australia (GN) | SES | Portage, Michigan, USA (A51) | SES |
| Hiraiso, Japan (HI) | SWF | Roswell, New Mexico, USA (RW) | SES |
| Huancayo, Peru (HU) | SWF | San Antonio, Texas, USA (RW) | SES |
| Inubo, Japsan (IN) | SPA | Sao Paulo, Brazil (UM) | SES, SPA |
| Juliusruh, GDR (JU) | SWF | St. Cloud, Minnesota, USA (SC) | SES |
| Kasugai, Japan (KA) | SPA | Trenton, New Jersey, USA (NJ) | SES |
| Kuhlungsborn, GDR (KU) | SPA. SEA | Tucson, Arizona, USA (A9) | SES |
| Latrobe, Pennsylvania, USA (A190 | SES | Upice, Czechoslovakia (U1) | SEA |
| Lintong, China (LT) | SPA | Valley Cottage, New York, USA (A1) | SES |
| Louisville, Kentucky, USA (A26) | SES | Vsetin, Czechoslovakia (VS) | SEA |
| Mahwah, New Jersey, USA (A5) | SES | Walla Walla, Washington, USA (A55) | SES |
| Maui, Hawaii, USA (MI) | SWF | | |

*Observations are not necessarily continuous for each reporting station.

SIDs BY BIG BEAR CALCIUM PLAGE REGION
August 1982

| Day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Region | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18480 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18492 | | 3 | | 3 | | | | 4 | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 18495 | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18508 | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 18511 | | | | | | | 3 | 2 | 3 | 6 | 4 | 4 | 1 | 4 | 1 | 1 | | | | | | | | | | | | | | | |
| 18515 | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | | | | | |
| 18518 | | | | | | | | | 1 | 1 | | | 1 | | 1 | | | | | | | | | | | | | | | | |
| 18519 | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | |
| 18520 | | | | | | | | 1 | | | | | | 1 | | | | | | | | | | | | | | | | | |
| 18521 | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | |
| 18522 | | | | | | | | | | | | | | | 2 | 1 | | 1 | 1 | 1 | | | | | | | | | | | |
| 18523 | | | | | | | | | | | | | | 1 | | | | | | | 1 | | | | | | | | | | |
| 18527 | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | |
| 18528 | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | |
| 18530 | | | | | | | | | | | | | | | | | 3 | | | | | | | | | | | | | | |
| 18531 | | | | | | | | | | | | | | | | | 2 | 5 | 4 | 1 | 1 | | | | | | | 1 | 1 | | |
| 18532 | | | | | | | | | | | | | | | | | | | | | | 3 | 1 | 1 | | 3 | 9 | | 1 | 1 | 2 |
| 18545 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| 18546 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | |
| 18551 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| NO FLARE | 2 | 3 | 3 | 2 | 1 | | 2 | | | 3 | | | | | | | | 1 | 1 | 2 | | | | | | 2 | | | 1 | | 1 |
| NO FLARE PATROL | 1 | 1 | 1 | 1 | 5 | 1 | 2 | 2 | | | 1 | | | | | | 1 | 2 | | | 1 | | | 1 | | | | 2 | | | 1 |
| NO DATA | | | | | | 6 | | | | | | | 4 | | | | | | | | | | | | | | | | | | |
| EVENT TOTALS | 3 | 8 | 5 | 8 | 6 | 7 | 8 | 9 | 5 | 11 | 5 | 6 | 6 | 6 | 4 | 2 | 7 | 10 | 7 | 4 | 3 | 3 | 1 | 2 | | 5 | 9 | 5 | 3 | 1 | 6 |

# P I O N E E R  X I I
## (VENUS ORBITER)
## INTERPLANETARY MAGNETIC FIELD
## MAGNITUDES

AUGUST 1982

| DAY | TIME | BMAG (GAMMAS) |
|---|---|---|
| 1 | 13:30:50 | 13.13 |
| 2 | 13:31:00 | 13.83 |
| 3 | 13:30:30 | 14.84 |
| 4 | 13:30:30 | 14.64 |
| 5 | 16:39:20 | 16.27 |
| 6 | 13:31:00 | 14.18 |
| 7 | 13:41:20 | 12.76 |
| 8 | 13:41:20 | 15.72 |
| 9 | 13:41:20 | 18.17 |
| 10 | 13:40:40 | 12.06 |
| 11 | 13:40:30 | 19.68 |
| 12 | 16:38:50 | 10.40 |
| 13 | 13:47:40 | 10.31 |
| 14 | 13:47:30 | 10.08 |
| 15 | 13:36:20 | 12.37 |
| 16 | 13:36:30 | 14.55 |
| 17 | 14:20:20 | 13.85 |
| 18 | 13:36:10 | 13.44 |
| 19 | 13:36:00 | 13.27 |
| 20 | 13:35:20 | 14.26 |
| 21 | 13:35:30 | 11.84 |
| 22 | 15:10:40 | 11.73 |
| 23 | 13:30:40 | 11.21 |
| 24 | 13:31:00 | 37.80 |
| 25 | 13:31:10 | 38.59 |
| 26 | 16:40:20 | 24.77 |
| 27 | 13:31:00 | 20.32 |
| 28 | 13:33:30 | 10.58 |
| 29 | 13:32:50 | 13.36 |
| 30 | 13:32:30 | 18.38 |
| 31 | 13:33:00 | 13.73 |

AUGUST 1982

| Day | Observation Start (UT) | Observation End (UT) | Sta | Decimetric Band Start (UT) | Decimetric Band End (UT) | Decimetric Band Int (1-3) | Metric Band Start (UT) | Metric Band End (UT) | Metric Band Int (1-3) | Dekametric Band Start (UT) | Dekametric Band End (UT) | Dekametric Band Int (1-3) | Spectral Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 0000 | 0738 | CULG | 0246.5 | 0247.0 | 2 | 0246.5 | 0249.0 | 2 | 0247.0 | 0248.0 | 1 | IIIG |
| | | | LEAR | | | | 0247.0 | 0249.2 | 1 | | | | III |
| | | | PALE | | | | 0247.2 | 0248.1 | 2 | | | | V |
| | | | LEAR | | | | 0424.2 | 0426.8 | 1 | | | | III |
| | | | CULG | | | | 0424.5 | 0426.5 | 2 | | | | IIIGG |
| | | | CULG | | | | 0454.0 | 0456.0 | 3 | 0454.5 | 0456.0 | 2 | IIIGG,V |
| | | | LEAR | | | | 0454.5 | 0456.4 | 2 | | | | V |
| | 0437 | 1820 | WEIS | | | | 0454.7 | 0455.9 | 1 | | | | IIIG |
| | | | CULG | | | | 0706.5 | 0720.0 | 2 | | | II | H |
| | | | LEAR | | | | 0708.2 | 0719.9 | 1 | | | | G |
| | | | LEAR | | | | 0840.5 | 0841.1 | 1 | | | | III |
| | | | WEIS | | | | 0840.5 | 0841.0 | 1 | | | | IIIG,U |
| | | | WEIS | | | | 0850.2 | 0851.4 | 2 | | | | DCIM,U |
| | | | WEIS | | | | 0947.5 | 0948.7 | 3 | | | | IIIG |
| | | | WEIS | | | | 0955.2 | 0955.3 | 2 | | | | U,RS |
| | | | WEIS | | | | 1046.8 | 1047.7 | 2 | | | | DCIM,U |
| | | | WEIS | | | | 1050.3 | 1052.3 | 2 | | | | IIIG |
| | | | WEIS | | | | 1233.7 | 1235.3 | 2 | | | | IIIG,RS |
| | | | WEIS | | | | 1239.4 | 1249.6 | 1 | | | | IIIG |
| | | | WEIS | | | | 1247.0 | 1247.1 | 1 | | | | IIIB |
| | 1245 | 2305 | HARV | | | | 1355.0 | 1732.0 | 1 | | | | IN |
| | | | HARV | | | | 1434.0 | 1439.0 | 3 | 1435.0 | 1437.0 | 2 | IIIGG |
| | | | WEIS | | | | 1434.7 | 1437.3 | 3 | | | | IIIGG |
| | | | SGMR | | | | 1435.2 | 1437.0 | 1 | | | | V |
| | | | HARV | 1448.0 | | 2 | | | | | | | IIIG |
| | | | HARV | 1452.0 | | 2 | | | | | | | IIIG |
| | | | HARV | 1630.0 | | 1 | | | | | | | IIIG |
| | | | WEIS | 1637.7 | 1638.8 | 1 | | | | | | | IIIG |
| | | | HARV | 1638.0 | | 2 | | | | | | | IIIG |
| | | | WEIS | | | | 1644.8 | 1646.7 | 2 | | | | IIIG |
| | | | HARV | | | | 1645.0 | 1646.0 | 1 | 1645.0 | 1646.0 | 1 | IIIG |
| | 2039 | 2400 | CULG | | | | | | | | | | |
| 02 | | | CULG | | | | 0355.0 | 0433.0 | | | | | IS,W |
| | | | CULG | | | | 0433.0 | 0726.5 | 1 | | | | IS,C |
| | | | CULG | | | | 0441.0 | | 2 | | | | IIIB |
| | 0000 | 0738 | CULG | 0519.5 | 0644.5 | 1 | 0128.0 | 0644.5 | 1 | | | | IIIN |
| | | | CULG | | | | 0644.0 | 0644.5 | 2 | | | | IIIG |
| | 0746 | 1202 | WEIS | | | | 0758.2 | 0758.0 | 1 | | | | IIIB |
| | | | WEIS | | | | 0803.9 | 0804.1 | 1 | | | | IIIB |
| | | | WEIS | | | | 0821.3 | 0821.5 | 2 | | | | IIIG |
| | | | WEIS | | | | 1009.4 | 1009.7 | 3 | | | | IIIG |
| | | | WEIS | | | | 1039.2 | 1045.8 | 2 | | | | DCIM |
| | 1337 | 2250 | HARV | | | | 1241.0 | 1342.0 | 2 | | | | IIIG |
| | 1214 | 1819 | WEIS | | | | 1321.7 | 1322.4 | 2 | | | | IIIG |
| | | | WEIS | | | | 1325.7 | 1325.9 | 2 | | | | IIIG |
| | | | WEIS | | | | 1341.4 | 1341.6 | 3 | | | | IIIG |
| | | | WEIS | | | | 1348.6 | 1348.8 | 2 | | | | IIIG |
| | | | HARV | 1358.0 | | 2 | | | | | | | IIIB |
| | | | WEIS | | | | 1402.6 | 1402.8 | 3 | | | | IIIG |
| | | | WEIS | | | | 1430.8 | 1431.0 | 2 | | | | IIIG |
| | | | HARV | | | | 1431.0 | 2215.0 | 1 | | | | IN |
| | | | WEIS | | | | 1435.7 | 1435.8 | 1 | | | | IIIB |
| | | | WEIS | | | | 1515.3 | 1515.5 | 1 | | | | IIIG |
| | | | WEIS | | | | 1526.3 | 1526.8 | 3 | | | | IIIG,U |
| | | | HARV | | | | 1613.0 | 1620.0 | 2 | 1617.0 | 1619.0 | 1 | IIIGG |
| | | | WEIS | | | | 1617.1 | 1619.8 | 1 | | | | IIIG |
| | | | HARV | | | | 1624.0 | 1627.0 | 2 | 1624.0 | 1627.0 | 1 | IIIGG |
| | | | WEIS | | | | 1624.1 | 1627.0 | 1 | | | | IIIG |
| | | | WEIS | | | | 1704.1 | 1704.2 | 2 | | | | IIIB |
| | | | WEIS | | | | 1811.7 | 1814.2 | 3 | | | | IIIG |
| | | | HARV | 1816.0 | 1818.0 | 3 | | | | | | | IIIG |
| | 2039 | 2400 | CULG | 2119.0 | 2211.0 | 1 | | | | | | | IIIG,N |
| | | | HARV | 2119.0 | 2120.0 | 2 | | | | | | | IIIG |
| | | | CULG | | | | 2207.0 | 2208.5 | 3 | | | | IIIG,V |
| | | | HARV | 2207.0 | | 1 | 2207.0 | 2208.0 | 3 | 2207.0 | 2208.0 | 2 | IIIGG,V |
| | | | HARV | 2210.0 | 2211.0 | 1 | 2210.0 | 2211.0 | 1 | | | | IIIG |
| 03 | | | CULG | | | | 0029.0 | | 1 | | | | IIIB |
| | 0000 | 0738 | CULG | 0029.0 | 0137.0 | 1 | | | | | | | IIIG,N |
| | | | LEAR | | | | 0136.8 | 0137.0 | 1 | | | | III |

# SOLAR RADIO EMISSION
# SPECTRAL OBSERVATIONS

AUGUST 1982

| Day | Observation Start (UT) | Observation End (UT) | Sta | Decimetric Band Start (UT) | Decimetric Band End (UT) | Decimetric Band Int (1-3) | Metric Band Start (UT) | Metric Band End (UT) | Metric Band Int (1-3) | Dekametric Band Start (UT) | Dekametric Band End (UT) | Dekametric Band Int (1-3) | Spectral Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 03 | | | CULG | | | | 0137.0 | | 2 | | | | IIIB |
| | | | CULG | | | | 0501.5 | 0502.0 | 2 | | | | IIIG |
| | 0437 | 1824 | WEIS | | | | 0512.1 | 0512.6 | 2 | | | | IIIG |
| | | | WEIS | | | | 0513.8 | 0514.0 | 3 | | | | IIIB |
| | | | WEIS | | | | 0519.7 | 0520.6 | 3 | | | | IIIG |
| | | | WEIS | | | | 0524.0 | 0525.6 | 2 | | | | IIIG |
| | | | WEIS | | | | 0558.7 | 0558.9 | 2 | | | | IIIG |
| | | | CULG | | | | 0625.0 | | 1 | | | | IIIB |
| | | | WEIS | | | | 0632.6 | 0633.9 | 2 | | | | IIIG |
| | | | WEIS | | | | 0646.7 | 0646.9 | 1 | | | | IIIB |
| | | | WEIS | | | | 0739.2 | 0740.8 | 1 | | | | IIIG |
| | | | WEIS | | | | 0751.8 | 0751.9 | 1 | | | | IIIB |
| | | | WEIS | | | | 0753.3 | 0753.6 | 1 | | | | IIIG |
| | | | WEIS | | | | 0755.6 | 0757.7 | 2 | | | | IIIG |
| | | | WEIS | | | | 0828.3 | 0830.7 | 2 | | | | IIIG |
| | | | WEIS | | | | 0836.1 | 0836.3 | 2 | | | | IIIG |
| | | | WEIS | | | | 0904.1 | 0905.3 | 2 | | | | IIIG |
| | | | WEIS | | | | 1207.4 | 1207.9 | 2 | | | | IIIG |
| | | | WEIS | | | | 1246.2 | 1248.5 | 2 | | | | DCIM |
| | | | WEIS | | | | 1247.3 | 1248.2 | 1 | | | | IIIG |
| | 1245 | 2300 | HARV | | | | 1250.0 | 1435.0 | 1 | | | | IN |
| | | | WEIS | | | | 1301.1 | 1301.3 | 2 | | | | IIIG |
| | | | WEIS | | | | 1305.7 | 1307.6 | 2 | | | | IIIG |
| | | | WEIS | | | | 1417.4 | 1417.7 | 3 | | | | RS |
| | | | WEIS | 1419.3 | 1419.7 | 3 | | | | | | | RS |
| | | | WEIS | | | | 1430.2 | 1430.4 | 2 | | | | DCIM |
| | | | WEIS | | | | 1436.5 | 1436.7 | 1 | | | | IIIB |
| | | | WEIS | | | | 1453.6 | 1455.0 | 3 | | | | IIIGG |
| | | | HARV | | | | 1511.0 | | 2 | 1511.0 | | 1 | IIIG |
| | | | WEIS | | | | 1511.4 | 1511.7 | 2 | | | | IIIG |
| | | | WEIS | | | | 1524.3 | 1527.1 | 2 | | | | DCIM |
| | | | WEIS | | | | 1526.0 | 1528.4 | 3 | | | | IIIG |
| | | | HARV | | | | 1701.0 | 1702.0 | 2 | 1701.0 | 1702.0 | 1 | IIIG |
| | | | WEIS | | | | 1701.3 | 1704.5 | 1 | | | | IIIB |
| | | | WEIS | | | | 1710.9 | 1711.4 | 2 | | | | DCIM |
| | 2038 | 2400 | CULG | 2119.0 | | 3 | | | | | | | IIIB |
| | | | CULG | | | | 2124.0 | 2124.5 | 1 | | | | IIIG |
| | | | CULG | | | | 2126.0 | | 2 | | | | IIIB |
| 04 | 0000 | 0727 | CULG | | | | 0332.5 | 0723.0 | 1 | | | | IIIN |
| | | | LEAR | | | | 0720.9 | 0723.3 | 1 | | | | III |
| | 0737 | 1813 | WEIS | | | | 1239.1 | 1239.3 | 2 | | | | IIIB |
| | 1245 | 2255 | HARV | | | | 1318.0 | 2232.0 | 2 | | | | IIIN |
| | | | WEIS | | | | 1356.3 | 1356.7 | 1 | | | | IIIG |
| | | | WEIS | | | | 1359.3 | 1359.4 | 2 | | | | U |
| | | | HARV | 1401.0 | | 1 | 1359.0 | 1401.0 | 2 | | | | IIIG |
| | | | HARV | | | | 1406.0 | 1409.0 | 2 | | | | IIIGG |
| | | | WEIS | | | | 1408.2 | 1408.9 | 3 | | | | IIIGG |
| | | | WEIS | | | | 1420.6 | 1420.7 | 1 | | | | U |
| | | | HARV | | | | 1422.0 | 1424.0 | 1 | | | | IIIGGW |
| | | | WEIS | | | | 1423.7 | 1423.8 | 3 | | | | IIIB |
| | | | WEIS | | | | 1427.3 | 1428.8 | 2 | | | | IIIGG |
| | | | HARV | | | | 1428.0 | 1429.0 | 1 | | | | IIIGGW |
| | | | WEIS | | | | 1437.9 | 1438.3 | 2 | | | | IIIG,U |
| | | | HARV | | | | 1438.0 | | 2 | | | | IIIG |
| | | | HARV | | | | 1439.0 | 2220.0 | 1 | | | | !N |
| | | | HARV | | | | 1552.0 | 1556.0 | 2 | | | | IIIGG |
| | | | WEIS | | | | 1552.3 | 1552.7 | 2 | | | | IIIG |
| | | | WEIS | | | | 1555.4 | 1556.3 | 2 | | | | IIIG |
| | | | WEIS | | | | 1608.3 | 1608.5 | 3 | | | | IIIG |
| | | | HARV | | | | 1916.0 | 1917.0 | 2 | | | | IIIG |
| | | | HARV | | | | 1958.0 | 2001.0 | 3 | 1959.0 | | 2 | IIIGG |
| | | | PALE | | | | 1958.9 | 1959.3 | 1 | | | | III |
| | | | HARV | | | | 2027.0 | 2032.0 | 3 | 2028.0 | 2032.0 | 2 | IIIGG,V |
| | | | PALE | | | | 2027.7 | 2032.3 | 2 | | | | III |
| | | | SGMR | | | | 2031.0 | 2032.2 | 1 | | | | III |
| | | | CULG | | | | 2055.0 | 2400.0 | 1 | | | | IS |
| | | | HARV | 2154.0 | 2155.0 | 1 | | | | 2154.0 | 2155.0 | 1 | IIIG |
| | | | CULG | 2154.5 | 2155.0 | 3 | | | | | | | IIIG |
| | | | PALE | | | | 2154.7 | 2155.1 | 1 | | | | III |
| | | | CULG | 2206.0 | 2352.5 | 1 | | | | | | | IIIN |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 04 | | | CULG | 2338.5 | 2341.0 | 1 | | | | | | | DCIM |
| | | | CULG | 2341.0 | 2341.5 | 2 | | | | | | | I |
| 05 | 0000 | 0738 | CULG | | | | 0000.0 | 0027.0 | | | | | IS,W |
| | | | CULG | | | | 0023.0 | | 2 | | | | IIIB,U |
| | | | CULG | 0131.5 | 0132.5 | 1 | 0131.5 | 0132.5 | 2 | | | | IIIG |
| | | | CULG | 0210.0 | 0556.5 | 1 | 0210.0 | 0410.5 | 1 | | | | IIIN |
| | | | CULG | 0343.0 | 0348.0 | 2 | | | | | | | IS |
| | | | CULG | 0348.5 | 0349.5 | | | | | | | | CONT,W |
| | | | CULG | 0528.5 | 0725.5 | 2 | | | | | | | DCIM,N |
| | | | CULG | 0700.0 | 0720.0 | 1 | | | | | | | IS |
| | | | WEIS | | | | 0743.0 | 1208.0 | 1 | | | | IN |
| | 0743 | 1441 | WEIS | | | | 0746.5 | 0748.9 | 3 | | | | IIIGG,U |
| | | | WEIS | | | | 0756.9 | 0758.3 | 3 | | | | IIIG |
| | | | WEIS | | | | 0939.9 | 0940.6 | 2 | | | | IIIG |
| | | | WEIS | | | | 1053.7 | 1053.9 | 1 | | | | IIIB |
| | | | WEIS | | | | 1147.7 | 1148.0 | 2 | | | | IIIB |
| | 1245 | 2250 | HARV | 1255.0 | 2246.0 | 1 | | | | | | | IN |
| | | | HARV | | | | 1257.0 | 1258.0 | 2 | | | | IIIG |
| | | | HARV | | | | 1309.0 | | 3 | | | | IIIG |
| | | | WEIS | | | | 1309.3 | 1309.8 | 3 | | | | IIIG |
| | | | HARV | 1431.0 | 1439.0 | 2 | 1434.0 | 1439.0 | 3 | | | | IIIGG,U |
| | | | HARV | | | | 1455.0 | 1456.0 | 2 | | | | IIIG |
| | | | HARV | | | | 1504.0 | 1505.0 | 3 | 1504.0 | 1505.0 | 2 | IIIG,V |
| | 1510 | 1716 | WEIS | | | | 1528.9 | 1529.7 | 3 | | | | IIIG |
| | | | HARV | | | | 1529.0 | | 2 | 1529.0 | | 1 | IIIG |
| | | | HARV | 1613.0 | 2219.0 | 2 | | | | | | | IIIN |
| | | | WEIS | | | | 1621.4 | 1622.2 | 3 | | | | IIIG |
| | | | HARV | 1622.0 | 1624.0 | 2 | | | | | | | IIIGG |
| | | | HARV | | | | 1750.0 | | 2 | 1750.0 | | 2 | IIIG |
| | | | HARV | | | | 1804.0 | | 2 | | | | IIIG |
| | | | HARV | | | | 1816.0 | 1818.0 | 2 | 1816.0 | 1818.0 | 2 | IIIG |
| | 2038 | 2400 | CULG | 2048.0 | 2307.5 | 1 | | | | | | | IN |
| | | | HARV | 2132.0 | 2133.0 | 2 | | | | | | | IIIGG |
| | | | CULG | | | | 2311.5 | | 1 | | | | IIIB |
| 06 | 0000 | 0738 | CULG | | | | 0036.0 | 0038.0 | 3 | 0036.0 | 0036.5 | 1 | IIIG |
| | | | PALE | | | | 0036.2 | 0037.2 | 2 | | | | III |
| | | | CULG | | | | 0100.0 | 0703.0 | 1 | | | | IIIN |
| | | | LEAR | | | | 0100.5 | 0103.1 | 1 | | | | III |
| | | | PALE | | | | 0100.5 | 0100.8 | 2 | | | | III |
| | | | CULG | | | | 0146.5 | 0622.5 | 2 | | | | IIIN |
| | | | PALE | | | | 0146.7 | 0147.1 | 1 | | | | III |
| | | | LEAR | | | | 0146.8 | 0147.2 | 1 | | | | III |
| | | | CULG | 0155.5 | 0157.5 | 1 | 0155.5 | 0159.0 | 3 | 0156.0 | 0158.0 | 1 | IIIGG |
| | | | LEAR | | | | 0155.7 | 0159.2 | 2 | | | | III |
| | | | PALE | | | | 0155.7 | 0156.8 | 3 | | | | V |
| | | | PALE | | | | 0157.1 | 0158.1 | 2 | | | | V |
| | | | CULG | | | | 0308.5 | 0310.5 | 3 | 0309.0 | 0310.0 | 1 | IIIG |
| | | | LEAR | | | | 0308.8 | 0310.3 | 2 | | | | III |
| | | | PALE | | | | 0308.8 | 0309.1 | 2 | | | | V |
| | | | LEAR | | | | 0421.8 | 0422.3 | 1 | | | | III |
| | | | PALE | | | | 0421.8 | 0422.2 | 1 | | | | III |
| | | | CULG | | | | 0422.0 | | 3 | | | | IIIB,U |
| | | | LEAR | | | | 0459.1 | 0459.4 | 1 | | | | III |
| | | | LEAR | | | | 0622.3 | 0622.8 | 1 | | | | III |
| | 0342 | 1830 | WEIS | | | | 0622.3 | 0622.7 | 3 | | | | IIIG |
| | | | CULG | 0713.5 | | 3 | 0713.5 | | 3 | | | | IIIB |
| | | | LEAR | | | | 0713.6 | 0714.2 | 2 | | | | III |
| | | | WEIS | | | | 0713.7 | 0714.8 | 2 | | | | IIIG |
| | | | WEIS | | | | 0737.4 | 0737.9 | 2 | | | | IIIG |
| | | | LEAR | | | | 0737.5 | 0737.9 | 1 | | | | III |
| | | | LEAR | | | | 0740.1 | 0743.1 | 2 | | | | III |
| | | | WEIS | | | | 0740.2 | 0743.0 | 3 | | | | IIIGG,U |
| | | | WEIS | 0752.5 | 0753.1 | 2 | | | | | | | IIIG,RS |
| | | | LEAR | | | | 0824.3 | 0829.9 | 1 | | | | III |
| | | | WEIS | | | | 0824.3 | 0824.6 | 2 | | | | IIIG |
| | | | WEIS | | | | 0826.3 | 0830.0 | 3 | | | | IIIGG,U |
| | | | WEIS | | | | 1006.8 | 1007.2 | 2 | | | | IIIG |
| | | | WEIS | | | | 1014.4 | 1014.7 | 1 | | | | IIIG |
| | | | WEIS | | | | 1025.2 | 1027.6 | 2 | | | | DCIM |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06 | | | WEIS | | | | 1121.8 | 1124.7 | 3 | | | | IIIG |
| | | | WEIS | | | | 1124.2 | 1126.4 | 2 | | | | DCIM |
| | | | WEIS | | | | 1131.3 | 1131.6 | 2 | | | | IIIG |
| | | | WEIS | 1206.2 | 1206.6 | 3 | | | | | | | IIIG |
| | | | WEIS | | | | 1207.8 | 1208.3 | 2 | | | | IIIG |
| | | | WEIS | | | | 1211.0 | 1211.1 | 2 | | | | IIIB |
| | | | SGMR | | | | 1232.5 | 1244.5 | 2 | | | | V |
| | | | WEIS | | | | 1232.6 | 1234.9 | 3 | | | | IIIGG |
| | 1245 | 2310 | HARV | 1312.0 | 2304.0 | 1 | | | | | | | IN |
| | | | HARV | 1324.0 | 1325.0 | 1 | 1324.0 | 1325.0 | 3 | 1324.0 | 1325.0 | 1 | IIIG |
| | | | SGMR | | | | 1324.1 | 1324.8 | 1 | | | | V |
| | | | WEIS | | | | 1324.2 | 1326.2 | 3 | | | | IIIG |
| | | | HARV | 1333.0 | 1338.0 | 2 | 1335.0 | 1336.0 | 2 | | | | IIIGG |
| | | | WEIS | | | | 1334.0 | 1336.3 | 3 | | | | DCIM |
| | | | HARV | 1342.0 | 1345.0 | 1 | 1342.0 | 1345.0 | 1 | | | | IIIG |
| | | | WEIS | | | | 1342.7 | 1346.2 | 2 | | | | IIIGG |
| | | | HARV | 1347.0 | 1348.0 | 1 | 1347.0 | 1348.0 | 3 | 1347.0 | 1348.0 | 2 | IIIGG |
| | | | WEIS | | | | 1347.3 | 1348.7 | 3 | | | | IIIGG |
| | | | SGMR | | | | 1347.5 | 1348.0 | 1 | | | | V |
| | | | HARV | | | | 1412.0 | 1413.0 | 2 | | | | IIIG |
| | | | WEIS | | | | 1412.7 | 1412.9 | 3 | | | | IIIG |
| | | | HARV | | | | 1526.0 | 2305.0 | 2 | | | | IIIN |
| | | | HARV | | | | 1528.0 | 1532.0 | 3 | 1528.0 | 1532.0 | 2 | IIIGG |
| | | | SGMR | | | | 1528.5 | 1532.3 | 1 | | | | V |
| | | | WEIS | | | | 1528.6 | 1529.3 | 3 | | | | IIIG |
| | | | SGMR | | | | 1531.5 | 1531.6 | 1 | | | | V |
| | | | WEIS | | | | 1531.6 | 1532.6 | 3 | | | | IIIG |
| | | | WEIS | | | | 1536.1 | 1536.6 | 2 | | | | IIIG |
| | | | HARV | | | | 1558.0 | 1601.0 | 2 | 1559.0 | 1601.0 | 2 | IIIGG |
| | | | WEIS | | | | 1558.4 | 1601.3 | 3 | | | | IIIGG |
| | | | SGMR | | | | 1559.4 | 1600.5 | 1 | | | | III |
| | | | HARV | 1627.0 | 2254.0 | 1 | | | | | | | IIINW |
| | | | HARV | 1631.0 | 1632.0 | 1 | 1631.0 | 1632.0 | 3 | 1631.0 | 1632.0 | 2 | IIIGG,V |
| | | | WEIS | | | | 1631.3 | 1632.4 | 3 | | | | IIIGG |
| | | | SGMR | | | | 1631.5 | 1631.6 | 1 | | | | V |
| | | | WEIS | | | | 1639.4 | 1641.3 | 3 | | | | IIIG,RS |
| | | | HARV | 1640.0 | 1641.0 | 1 | 1639.0 | 1641.0 | 2 | | | | IIIG |
| | | | WEIS | | | | 1652.6 | 1652.7 | 2 | | | | IIIB |
| | | | HARV | | | | 1723.0 | 1726.0 | 2 | 1723.0 | 1726.0 | 2 | IIIGG |
| | | | WEIS | | | | 1723.6 | 1726.2 | 2 | | | | IIIG |
| | | | PALE | | | | 1725.9 | 1726.7 | 1 | | | | III |
| | | | HARV | | | | 1933.0 | 1934.0 | 2 | 1933.0 | 1934.0 | 1 | IIIG |
| | 2038 | 2400 | CULG | 2130.0 | 2134.5 | 1 | | | | | | | IN |
| | | | CULG | | | | 2131.0 | 2134.5 | 1 | | | | IIIG |
| | | | CULG | 2230.0 | 2329.0 | 1 | | | | | | | DCIM,N |
| | | | HARV | 2230.0 | 2233.0 | 2 | 2231.0 | 2233.0 | 2 | | | | IIIGG |
| | | | CULG | | | | 2231.0 | 2233.0 | 1 | | | | IIIG |
| | | | CULG | | | | 2300.5 | 2303.0 | 3 | | | | IIIGG |
| | | | PALE | | | | 2300.8 | 2302.8 | 2 | | | | V |
| | | | HARV | | | | 2301.0 | 2302.0 | 2 | 2301.0 | 2302.0 | 1 | IIIGG |
| | | | CULG | | | | 2325.5 | 2339.0 | 2 | 2326.0 | 2338.0 | 1 | IIIN |
| | | | PALE | | | | 2325.6 | 2338.1 | 2 | | | | G |
| | | | CULG | 2328.5 | 2329.0 | 1 | | | | | | | CONT |
| | | | CULG | 2328.5 | 2329.0 | 1 | 2328.5 | 2329.0 | 3 | 2328.5 | 2329.0 | 1 | IIIG |
| | | | LEAR | | | | 2328.8 | 2330.0 | 1 | | | | III |
| | | | CULG | | | | | | | 2332.0 | 2338.0 | | SWF,W |
| | | | LEAR | | | | 2333.9 | 2338.1 | 1 | | | | II |
| | | | CULG | | | | 2334.0 | 2339.5 | 3 | | | | II |
| 07 | 0000 | 0738 | CULG | | | | 0043.5 | | 1 | | | | IIIB |
| | | | CULG | 0506.5 | 0507.0 | 2 | | | | | | | I |
| | | | CULG | | | | 0542.0 | | 1 | | | | IIIB |
| | 1245 | 2335 | HARV | 1411.0 | 2250.0 | 2 | 1409.0 | 2241.0 | 2 | 1558.0 | 2227.0 | 2 | IIIN |
| | | | HARV | | | | 1428.0 | 1430.0 | 3 | 1430.0 | | 2 | IIIGG |
| | | | SGMR | | | | 1429.8 | 1430.0 | 1 | | | | III |
| | | | HARV | | | | 1508.0 | | 2 | | | | IIIG,U |
| | | | HARV | | | | 1512.0 | 1514.0 | 2 | 1514.0 | | 1 | IIIGG |
| | | | SGMR | | | | 1519.7 | 1520.1 | 1 | | | | V |
| | | | HARV | 1520.0 | | 1 | 1520.0 | | 3 | 1520.0 | | 2 | IIIGG |
| | | | SGMR | | | | 1523.8 | 1524.0 | 1 | | | | III |
| | | | HARV | | | | 1524.0 | 1525.0 | 2 | 1524.0 | | 2 | IIIGG |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07 | | HARV | 1544.0 | 1545.0 | 1 | 1544.0 | 1545.0 | 1 | | | | IIIGG |
| | | HARV | | | | 1632.0 | 1637.0 | 3 | 1632.0 | 1637.0 | 2 | IIIGG |
| | | HARV | | | | 1646.0 | 1647.0 | 2 | 1646.0 | 1647.0 | 2 | IIIG |
| | | HARV | 1723.0 | 1725.0 | 1 | 1723.0 | 1727.0 | 2 | 1723.0 | 1727.0 | 2 | IIIGG |
| | | PALE | | | | 1724.1 | 1725.3 | 2 | | | | III |
| | | HARV | | | | 1736.0 | 1742.0 | 2 | 1736.0 | 1742.0 | 2 | IIIGG |
| | | PALE | | | | 1737.8 | 1742.2 | 2 | | | | III |
| | | HARV | 1755.0 | | 1 | 1755.0 | | 2 | | | | IIIG |
| | | HARV | 1759.0 | 1801.0 | 1 | 1759.0 | 1801.0 | 2 | | | | IIIG |
| | | HARV | | | | 1813.0 | 1827.0 | 3 | 1813.0 | 1827.0 | 2 | IIIGG |
| | | PALE | | | | 1819.0 | 1827.1 | 2 | | | | III |
| | | SGMR | | | | 1826.2 | 1826.3 | 1 | | | | III |
| | | HARV | 1830.0 | 1832.0 | 2 | 1830.0 | 1832.0 | 1 | 1830.0 | 1832.0 | 1 | IIIGG |
| | | HARV | 1842.0 | | 1 | 1842.0 | 1845.0 | 2 | 1843.0 | 1845.0 | 2 | IIIG |
| | | PALE | | | | 1842.3 | 1849.6 | 2 | | | | III |
| | | HARV | | | | 1848.0 | 1850.0 | 2 | 1848.0 | 1850.0 | 2 | IIIG |
| | | PALE | | | | 1908.9 | 1909.5 | 2 | | | | V |
| | | HARV | | | | 1909.0 | | 3 | 1909.0 | | 2 | IIIG,V |
| | | HARV | | | | 1948.0 | 2001.0 | 2 | 1948.0 | 2001.0 | 2 | IIIGG |
| | | PALE | | | | 1957.0 | 2007.2 | 2 | | | | GG |
| | | HARV | | | | 2003.0 | 2008.0 | 3 | 2003.0 | 2008.0 | 2 | IIIGG |
| | | HARV | | | | 2035.0 | | 2 | 2035.0 | | 2 | IIIG,V |
| | | PALE | | | | 2035.3 | 2035.7 | 2 | | | | V |
| | | SGMR | | | | 2035.4 | 2035.6 | 1 | | | | III |
| | | PALE | | | | 2101.5 | 2102.0 | 2 | | | | III |
| | 2038 | 2400 CULG | | | | 2102.0 | 2332.0 | 2 | | | | IIIN |
| | | HARV | | | | 2102.0 | | 2 | 2102.0 | | 2 | IIIG |
| | | HARV | 2117.0 | 2118.0 | 2 | | | | 2117.0 | 2118.0 | 2 | IIIG |
| | | PALE | | | | 2117.5 | 2117.9 | 2 | | | | III |
| | | CULG | | | | 2126.0 | 2348.0 | 1 | | | | IIIN |
| | | HARV | 2212.0 | 2213.0 | 2 | | | | | | | IIIG |
| | | PALE | | | | 2226.6 | 2226.8 | 2 | | | | III |
| | | CULG | 2320.0 | 2324.5 | 1 | | | | | | | IIIN |
| | | HARV | 2320.0 | 2321.0 | 2 | 2320.0 | 2321.0 | 2 | | | | IIIGG,U |
| | | HARV | 2323.0 | 2325.0 | 1 | 2323.0 | 2327.0 | 3 | 2324.0 | 2327.0 | 2 | IIIGG |
| | | CULG | | | | 2324.5 | 2327.0 | 3 | 2324.5 | 2327.0 | 2 | IIIGG |
| | | PALE | | | | 2324.5 | 2331.2 | 2 | | | | III |
| | | HARV | | | | 2329.0 | 2331.0 | 2 | 2329.0 | 2331.0 | 1 | IIIGG |
| | | CULG | 2342.0 | 2342.5 | 1 | | | | | | | DCIM |
| 08 | 0000 | 0737 CULG | 0017.5 | 0018.5 | 1 | 0016.0 | 0019.5 | 1 | 0017.0 | 0019.0 | 1 | IIIGG |
| | | LEAR | | | | 0018.2 | 0019.0 | 1 | | | | III |
| | | CULG | | | | 0022.0 | 0025.5 | 1 | | | | II |
| | | CULG | 0027.0 | 0030.5 | 1 | | | | | | | DCIM |
| | | CULG | | | | 0028.0 | 0626.5 | 1 | | | | IIIN |
| | | LEAR | | | | 0028.1 | 0029.3 | 1 | | | | III |
| | | CULG | 0054.0 | 0054.5 | 2 | 0054.0 | 0055.5 | 3 | 0054.0 | 0055.5 | 2 | IIIG |
| | | PALE | | | | 0054.2 | 0055.2 | 2 | | | | III |
| | | LEAR | | | | 0054.3 | 0055.3 | 1 | | | | III |
| | | LEAR | | | | 0139.8 | 0140.1 | 1 | | | | III |
| | | LEAR | | | | 0154.8 | 0155.1 | 1 | | | | III |
| | | CULG | | | | 0202.0 | 0206.0 | 3 | 0204.0 | 0205.0 | 2 | IIIGG,V |
| | | CULG | 0202.0 | 0205.0 | 1 | | | | | | | IS,C |
| | | PALE | | | | 0202.0 | 0215.9 | 2 | | | | II |
| | | LEAR | | | | 0202.1 | 0206.1 | 2 | | | | III |
| | | CULG | 0204.0 | 0211.0 | 1 | | | | | | | CONT |
| | | CULG | | | | | | | 0205.0 | 0215.0 | 1 | SWF |
| | | CULG | | | | 0205.0 | 0220.0 | 3 | | | | II H |
| | | LEAR | | | | 0206.8 | 0213.2 | 1 | | | | II |
| | | LEAR | | | | 0215.0 | 0234.0 | 1 | | | | GG |
| | | CULG | | | | 0223.5 | 0235.0 | 2 | 0231.5 | 0234.0 | 2 | IIIS |
| | | PALE | | | | 0231.6 | 0234.0 | 2 | | | | III |
| | | CULG | | | | 0255.0 | 0522.5 | 2 | | | | IIIN |
| | | LEAR | | | | 0255.2 | 0255.8 | 1 | | | | III |
| | | PALE | | | | 0255.3 | 0255.5 | 1 | | | | III |
| | | LEAR | | | | 0312.1 | 0319.8 | 1 | | | | III |
| | | LEAR | | | | 0319.8 | 0140.1 | 1 | | | | III |
| | | LEAR | | | | 0341.0 | 0341.5 | 1 | | | | III |
| | | LEAR | | | | 0405.8 | 0410.5 | 1 | | | | III |
| | | LEAR | | | | 0424.2 | 0532.3 | 1 | | | | CONT |
| | | CULG | | | | 0442.0 | 0444.5 | 3 | 0442.5 | 0444.5 | 2 | IIIG |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 08 | | | LEAR | | | | 0442.4 | 0446.0 | 2 | | | | V |
| | | | CULG | | | | 0451.0 | 0453.0 | 3 | 0451.0 | 0453.0 | 1 | IIIG |
| | | | CULG | 0519.0 | 0520.0 | 2 | 0519.0 | 0520.0 | 3 | 0519.0 | 0520.0 | 2 | IIIG |
| | | | LEAR | | | | 0519.0 | 0520.1 | 2 | | | | III |
| | | | LEAR | | | | 0633.7 | 0634.9 | 2 | | | | III |
| | | | CULG | | | | 0635.5 | 0635.0 | 3 | | | | IIIG.V |
| | | | LEAR | | | | 0827.9 | 0828.5 | 1 | | | | III |
| | | | SGMR | | | | 1114.9 | 1115.0 | 1 | | | | III |
| | | | SGMR | | | | 1147.0 | 1148.1 | 1 | | | | III |
| | 1245 | 2245 | HARV | | | | 1307.0 | | 1 | | | | IIIG |
| | | | HARV | 1331.0 | 1332.0 | 1 | 1331.0 | 1332.0 | 2 | | | | IIIGG |
| | | | HARV | 1426.0 | | 2 | | | | | | | IIIG |
| | | | HARV | 1647.0 | 1649.0 | 1 | | | | | | | I |
| | | | HARV | 1906.0 | 2034.0 | 1 | | | | | | | IIIN |
| | | | HARV | 1955.0 | 1958.0 | 1 | 1957.0 | 1958.0 | 2 | 1958.0 | | 2 | IIIG.V |
| | | | PALE | | | | 1956.6 | 1957.1 | 2 | | | | V |
| | | | HARV | 2218.0 | | 1 | 2218.0 | | 2 | 2218.0 | | 1 | IIIBW |
| | | | PALE | | | | 2218.2 | 2218.5 | 2 | | | | III |
| | 2038 | 2400 | CULG | | | | 2218.5 | | 2 | | | | IIIB |
| | | | CULG | 2328.0 | 2330.5 | 2 | 2329.5 | 2331.0 | 3 | 2329.5 | 2330.0 | 1 | IIIGG |
| | | | PALE | | | | 2329.4 | 2330.9 | 2 | | | | V |
| | | | LEAR | | | | 2329.5 | 2330.8 | 1 | | | | V |
| 09 | 0000 | 0735 | CULG | | | | | | | | | | |
| | 1245 | 2245 | HARV | 1254.0 | 1256.0 | 1 | | | | | | | IIIGW |
| | | | HARV | | | | 1713.0 | 1715.0 | 2 | 1713.0 | 1715.0 | 2 | IIIGG |
| | 0544 | 1819 | WEIS | | | | 1713.2 | 1715.7 | 2 | | | | IIIG |
| | | | HARV | 1737.0 | | 1 | | | | | | | I |
| | | | HARV | | | | 1755.0 | | 2 | 1755.0 | | 2 | IIIB |
| | 0039 | 2400 | CULG | 2126.5 | 2135.5 | 1 | | | | | | | IS |
| | | | HARV | | | | 2143.0 | 2146.0 | 1 | | | | IW |
| | | | CULG | | | | 2158.0 | | 1 | | | | IIIB |
| 10 | 0000 | 0737 | CULG | | | | 0214.0 | | 1 | | | | IIIB |
| | | | CULG | 0442.5 | 0533.5 | 2 | | | | | | | IN |
| | | | CULG | | | | 0516.5 | 0519.0 | 1 | | | | IIIN |
| | 0511 | 1239 | WEIS | | | | 1027.2 | 1028.8 | 3 | | | | IIIG |
| | 1244 | 1817 | WEIS | | | | | | | | | | |
| | 1245 | 2300 | HARV | 1436.0 | 1437.0 | 1 | | | | | | | IIIG |
| | | | HARV | | | | 1609.0 | | 1 | | | | IIIGW |
| | | | HARV | | | | 1754.0 | | 1 | | | | IIIB |
| | | | HARV | | | | 1934.0 | 1935.0 | 1 | 1934.0 | 1935.0 | 1 | IIIB |
| | | | HARV | | | | 1958.0 | 2300.0 | 1 | | | | I |
| | | | HARV | | | | 2045.0 | 2046.0 | 1 | 2045.0 | 2046.0 | 1 | IIIBW |
| | 2038 | 2400 | CULG | | | | 2050.0 | 2205.0 | 1 | | | | IS,DC |
| | | | CULG | | | | 2114.0 | 2244.0 | | | | | IIIS,W |
| | | | CULG | | | | 2128.5 | 2336.0 | 1 | | | | IIIN |
| | | | HARV | | | | 2223.0 | 2224.0 | 1 | | | | IIIGW |
| 11 | 0000 | 0737 | CULG | | | | 0233.5 | 0634.5 | 1 | | | | IIIN |
| | | | CULG | | | | 0333.5 | | 2 | 0334.0 | | 2 | IIIB |
| | | | LEAR | | | | 0333.7 | 0334.0 | 1 | | | | III |
| | 0441 | 1816 | WEIS | | | | 1043.7 | 1044.3 | 2 | | | | IIIG |
| | 1245 | 2300 | HARV | | | | 1336.0 | 1513.0 | 1 | | | | IN |
| | | | HARV | | | | 1513.0 | 1725.0 | 2 | | | | I |
| | | | HARV | | | | 1712.0 | | 1 | 1712.0 | | 1 | IIIG |
| | | | HARV | | | | 1725.0 | 2300.0 | 1 | | | | IN |
| | | | HARV | | | | 1730.0 | 1731.0 | 3 | 1730.0 | 1731.0 | 2 | IIIG,V |
| | | | SGMR | | | | 1730.2 | 1730.6 | 1 | | | | V |
| | | | PALE | | | | 1730.4 | 1730.8 | 2 | | | | V |
| | | | WEIS | | | | 1730.4 | 1730.9 | 3 | | | | IIIG |
| | | | HARV | | | | 1744.0 | | 2 | 1744.0 | | 1 | IIIG |
| | | | HARV | | | | 1825.0 | | 1 | 1825.0 | | 1 | IIIB |
| | | | HARV | | | | 1955.0 | | 1 | 1955.0 | | 1 | IIIG |
| | | | HARV | | | | 2005.0 | 2006.0 | 1 | | | | IIIB |
| | | | HARV | | | | 2016.0 | 2017.0 | 1 | 2016.0 | 2017.0 | 1 | IIIB |
| | 2107 | 2400 | CULG | 2140.5 | 2324.5 | 1 | | | | | | | IN |
| | | | HARV | | | | 2142.0 | 2143.0 | 2 | | | | IIIG |
| | | | CULG | 2142.5 | 2143.0 | 2 | 2142.5 | 2143.0 | 2 | | | | IIIG |
| | | | CULG | | | | 2245.5 | 2257.0 | | | | | IS,W |
| | | | CULG | | | | 2334.5 | 2354.5 | | | | | IIIS,W |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 0000 | 0737 | CULG | | | | 0000.5 | 0354.5 | 1 | | | | IN |
| | | | CULG | | | | 0006.0 | | 1 | | | | IIIB |
| | | | CULG | | | | 0042.5 | 0132.0 | | | | | IIIS,W |
| | | | LEAR | | | | 0224.9 | 0225.4 | 1 | | | | III |
| | | | PALE | | | | 0224.9 | 0225.4 | 2 | | | | V |
| | | | CULG | | | | 0225.0 | 0225.5 | 2 | | | | IIIB,U |
| | | | CULG | | | | 0239.0 | 0705.0 | 1 | | | | IIIN |
| | | | CULG | 0338.0 | 0701.0 | 1 | 0315.0 | 0540.5 | 1 | | | | IS |
| | | | CULG | 0348.5 | | 1 | 0348.5 | | 1 | | | | IIIG |
| | | | CULG | | | | 0425.0 | 0532.0 | | | | | IIIS.W |
| | 0506 | 0610 | WEIS | | | | 0601.3 | 0602.7 | 1 | | | | IIIG |
| | 1247 | 2250 | HARV | | | | 1250.0 | 1420.0 | 1 | | | | IN |
| | | | HARV | | | | 1420.0 | 1540.0 | 2 | | | | I |
| | 0625 | 1814 | WEIS | | | | 1527.7 | 1528.3 | 2 | | | | DCIM |
| | | | HARV | | | | 1540.0 | 2000.0 | 1 | | | | IN |
| | | | HARV | | | | 1609.0 | | 1 | 1609.0 | | 1 | IIIGW |
| | | | WEIS | | | | 1609.1 | 1609.3 | 1 | | | | IIIG |
| | | | HARV | | | | 1844.0 | | 2 | 1844.0 | | 2 | IIIB |
| | | | PALE | | | | 1844.2 | 1844.4 | 1 | | | | III |
| | | | SGMR | | | | 1844.2 | 1844.4 | 1 | | | | V |
| | | | HARV | | | | 1854.0 | 1856.0 | 1 | 1854.0 | 1856.0 | 1 | IIIGW |
| | | | HARV | | | | 2000.0 | 2106.0 | 2 | | | | I |
| | | | HARV | 2000.0 | 2250.0 | 1 | | | | | | | INW |
| | | | PALE | | | | 2006.6 | 2033.4 | 2 | | | | GG |
| | | | HARV | | | | 2008.0 | 2024.0 | 2 | 2008.0 | 2024.0 | 2 | IIIGG |
| | | | SGMR | | | | 2014.4 | 2014.5 | 1 | | | | III |
| | | | HARV | | | | 2030.0 | 2034.0 | 2 | 2030.0 | 2034.0 | 2 | IIIGG |
| | 2037 | 2400 | CULG | | | | 2043.0 | 2119.0 | 1 | | | | IS |
| | | | CULG | 2043.5 | 2358.0 | 1 | | | | | | | IN |
| | | | CULG | | | | 2119.0 | 2126.0 | 1 | | | | IIIS |
| | | | CULG | | | | 2338.5 | 2339.0 | 1 | | | | IIIG |
| | | | CULG | | | | 2354.0 | | 1 | | | | IIIB |
| 13 | | | CULG | | | | 0052.5 | 0155.5 | 2 | 0052.5 | 0156.0 | 1 | IIIN |
| | 0000 | 0737 | CULG | 0140.5 | 0610.0 | 1 | 0210.0 | 0706.5 | 1 | | | | IS |
| | | | CULG | | | | 0416.0 | 0651.0 | 1 | | | | IIIN |
| | | | LEAR | | | | 0421.8 | 0422.1 | 1 | | | | III |
| | 0443 | 1039 | WEIS | | | | 0549.0 | 0618.0 | 1 | | | | I |
| | | | LEAR | | | | 0549.3 | 0552.8 | 1 | | | | V |
| | | | WEIS | | | | 0603.1 | 0618.2 | 1 | | | | IIIG |
| | | | CULG | | | | 0604.0 | 0604.5 | 2 | | | | IIIG |
| | | | WEIS | | | | 0646.3 | 0650.8 | 1 | | | | IIIGG |
| | | | LEAR | | | | 0804.1 | 0804.6 | 1 | | | | III |
| | | | WEIS | | | | 0804.2 | 0806.7 | 1 | | | | IIIGG |
| | | | WEIS | | | | 1035.4 | 1037.9 | 2 | | | | IIIG |
| | 1055 | 1301 | WEIS | | | | 1105.8 | 1125.9 | 2 | | | | IIIB |
| | | | WEIS | | | | 1147.6 | 1148.0 | 2 | | | | IIIG |
| | 1246 | 2255 | HARV | | | | 1307.0 | 1940.0 | 1 | | | | IN |
| | | | HARV | | | | 1326.0 | | 1 | | | | IIIG |
| | 1306 | 1813 | WEIS | | | | 1326.3 | 1326.6 | 1 | | | | IIIG |
| | | | WEIS | | | | 1342.0 | 1350.7 | 2 | | | | DCIM |
| | | | WEIS | | | | 1343.1 | 1343.2 | 2 | | | | IIIB |
| | | | HARV | 1346.0 | 1347.0 | 1 | 1343.0 | 1350.0 | 3 | | | | IIIGG |
| | | | HARV | 1346.0 | 1857.0 | 1 | | | | | | | I |
| | | | WEIS | | | | 1347.6 | 1346.9 | 2 | | | | IIIB |
| | | | HARV | | | | 1451.0 | | 2 | | | | IIIG |
| | | | HARV | | | | 1504.0 | | 1 | | | | IIIB |
| | | | HARV | | | | 1638.0 | | 1 | | | | IIIBW |
| | | | HARV | | | | 1735.0 | 1740.0 | 2 | | | | IIIGG |
| | | | HARV | | | | 1813.0 | 1820.0 | 2 | 1813.0 | 1820.0 | 2 | IIIGG |
| | | | PALE | | | | 1814.3 | 1820.2 | 1 | | | | III |
| | | | HARV | | | | 1815.0 | 1820.0 | 2 | 1815.0 | 1820.0 | 2 | UNCL |
| | | | SGMR | | | | 1816.0 | 1820.0 | 1 | | | | V |
| | | | HARV | | | | 1825.0 | | 1 | 1825.0 | | 1 | IIIG |
| | | | HARV | | | | 1912.0 | | 1 | 1912.0 | | | IIIG |
| | | | SGMR | | | | 1913.0 | 1913.2 | 1 | | | | III |
| | | | HARV | | | | 1940.0 | 2200.0 | 2 | | | | I |
| | 2037 | 2400 | CULG | 2043.0 | 2400.0 | 1 | 2050.0 | 2202.5 | 1 | | | | IS |
| | | | CULG | | | | 2055.0 | 2202.0 | | | | | IIIS,W |
| | | | HARV | | | | 2055.0 | | 1 | 2055.0 | | 1 | IIIG |
| | | | CULG | | | | 2131.0 | 2322.5 | 1 | | | | IIIN |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | | | HARV | | | | 2200.0 | 2250.0 | 1 | | | | IN |
| | | | CULG | 2259.5 | 2300.0 | 2 | 2259.5 | 2303.5 | 3 | 2259.5 | 2301.5 | 2 | IIIG,V |
| | | | LEAR | | | | 2259.6 | 2301.8 | 1 | | | | III |
| | | | SGMR | | | | 2259.7 | 2301.0 | 1 | | | | III |
| | | | CULG | | | | 2301.5 | 2308.0 | 1 | | | | CONT |
| | | | CULG | | | | 2305.0 | 2306.5 | 1 | | | | POSS II |
| | | | CULG | | | | | | | 0 | 5495.00 | 5 | 505 2 |
| 14 | 0000 | 0226 | CULG | 0000.0 | 0226.5 | 1 | | | | | | | IS,C |
| | | | CULG | | | | 0020.0 | | 2 | | | | IIIB |
| | | | CULG | | | | 0031.0 | 0157.5 | 1 | | | | IIIN |
| | | | LEAR | | | | 0052.3 | 0058.5 | 1 | | | | III |
| | | | CULG | | | | 0113.0 | | 3 | 0113.0 | | 2 | IIIB |
| | | | PALE | | | | 0113.1 | 0157.7 | 2 | | | | GG |
| | | | LEAR | | | | 0113.2 | 0113.5 | 1 | | | | III |
| | | | LEAR | | | | 0135.9 | 0136.9 | 1 | | | | III |
| | | | LEAR | | | | 0155.3 | 0158.2 | 1 | | | | III |
| | | | CULG | | | | 0238.0 | 0244.0 | 2 | 0238.0 | 0244.0 | 1 | IIIG |
| | | | LEAR | | | | 0238.4 | 0245.2 | 1 | | | | V |
| | | | PALE | | | | 0238.5 | 0238.7 | 1 | | | | III |
| | | | PALE | | | | 0241.0 | 0241.1 | 2 | | | | III |
| | | | PALE | | | | 0242.2 | 0244.1 | 2 | | | | V |
| | | | LEAR | | | | 0326.3 | 0326.8 | 1 | | | | III |
| | | | CULG | | | | 0326.5 | | 1 | | | | IIIB |
| | | | LEAR | | | | 0506.4 | 0535.7 | 3 | | | | GG |
| | | | CULG | | | | 0506.5 | 0515.0 | 3 | 0506.5 | 0511.0 | 3 | IIIG,V |
| | 0443 | 1812 | WEIS | | | | 0506.9 | 1514.5 | 3 | | | | IIIG/V |
| | | | WEIS | | | | 0511.5 | 0523.3 | 1 | | | II | |
| | | | CULG | | | | 0512.0 | 0536.5 | 2 | | | II | |
| | | | CULG | | | | 0531.0 | 0535.0 | 1 | | | | IIIG |
| | | | WEIS | | | | 0535.0 | 0535.7 | 1 | | | | IIIG |
| | | | CULG | | | | 0606.0 | | 3 | | | | IIIB |
| | | | LEAR | | | | 0606.3 | 0606.6 | 1 | | | | III |
| | | | WEIS | | | | 0606.3 | 0606.7 | 1 | | | | IIIG |
| | | | WEIS | | | | 0626.7 | 0626.8 | 1 | | | | IIIB |
| | | | SGMR | | | | 1312.9 | 1320.7 | 1 | | | | III |
| | 1247 | 2300 | HARV | | | | 1317.0 | 1340.0 | 2 | | | | IIIGG |
| | | | HARV | | | | 1420.0 | 1421.0 | 2 | | | | IIIB |
| | | | HARV | | | | 1611.0 | 1612.0 | 1 | 1611.0 | 1612.0 | 1 | IIIBW |
| | | | WEIS | | | | 1611.4 | 1611.6 | 1 | | | | IIIB |
| | | | HARV | | | | 1717.0 | 1724.0 | 1 | | | | I |
| | | | HARV | | | | 1748.0 | | 1 | 1748.0 | | 1 | IIIGW |
| | | | HARV | | | | 1816.0 | 1819.0 | 1 | | | | IW |
| | | | HARV | | | | 1857.0 | | 2 | | | | IIIG |
| | | | HARV | | | | 2025.0 | 2026.0 | 2 | | | | IIIG |
| | | | PALE | | | | 2025.3 | 2026.5 | 1 | | | | III |
| | | | SGMR | | | | 2025.8 | 2026.0 | 1 | | | | III |
| | 2039 | 2400 | CULG | | | | 2050.5 | 2117.0 | | | | | IIIS,W |
| | | | CULG | 2100.0 | 2135.0 | 1 | | | | | | | IS |
| | | | CULG | 2112.5 | | 1 | 2112.5 | | 1 | | | | IIIB |
| | | | CULG | 2135.0 | 2341.5 | 1 | | | | | | | IN |
| | | | CULG | | | | 2203.5 | 2204.0 | 2 | | | | IIIB |
| | | | CULG | | | | 2338.5 | 2339.5 | 2 | | | | IIIG |
| | | | PALE | | | | 2338.7 | 2339.7 | 2 | | | | III |
| 15 | | | LEAR | | | | 0001.7 | 0002.0 | 1 | | | | III |
| | | | LEAR | | | | 0013.9 | 0014.3 | 1 | | | | III |
| | 0000 | 0736 | CULG | | | | 0031.5 | 0608.5 | 2 | | | | IIIN |
| | | | CULG | | | | 0044.0 | 0652.5 | 1 | | | | IIIN |
| | | | LEAR | | | | 0129.0 | 0129.3 | 1 | | | | III |
| | | | CULG | | | | 0218.0 | 0224.0 | | | | | IIIS,W |
| | | | LEAR | | | | 0219.9 | 0221.6 | 1 | | | | III |
| | | | PALE | | | | 0219.9 | 0221.4 | 2 | | | | III |
| | | | LEAR | | | | 0248.2 | 0302.5 | 1 | | | | GG |
| | | | PALE | | | | 0250.9 | 0259.7 | 2 | | | | GG |
| | | | CULG | | | | 0251.0 | 0302.0 | 2 | | | | IIIS |
| | | | CULG | | | | 0256.5 | 0259.5 | 3 | 0256.5 | 0258.5 | 1 | IIIGG |
| | | | CULG | 0321.0 | 0617.0 | | | | | | | | IS,W |
| | | | LEAR | | | | 0333.1 | 0335.8 | 1 | | | | III |
| | | | LEAR | | | | 0418.2 | 0424.1 | 1 | | | | V |
| | | | CULG | | | | 0532.0 | 0718.5 | 1 | | | | IIIS |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | | | CULG | | | | 0532.0 | 0718.5 | 1 | | | | IS |
| | 0446 | 0613 | WEIS | | | | 0559.3 | 0559.9 | 2 | | | | IIIG |
| | | | LEAR | | | | 0559.4 | 0601.2 | 1 | | | | V |
| | | | CULG | | | | 0559.5 | 0600.0 | 3 | | | | IIIB |
| | | | LEAR | | | | 0607.7 | 0951.0 | 1 | | | | CONT |
| | | | WEIS | | | | 0607.7 | 0608.4 | 1 | | | | IIIG |
| | 0758 | 1811 | WEIS | | | | 0819.3 | 0819.5 | 1 | | | | IIIB |
| | | | WEIS | | | | 0830.7 | 0834.8 | 1 | | | | IIIGG |
| | | | WEIS | | | | 0852.7 | 0856.5 | 3 | | | | IIIGG |
| | | | LEAR | | | | 0853.9 | 0856.3 | 1 | | | | III |
| | | | WEIS | | | | 0859.8 | 0901.6 | 1 | | | | IIIG |
| | | | WEIS | | | | 0904.1 | 0904.2 | 1 | | | | IIIB |
| | | | WEIS | | | | 0911.7 | 0911.9 | 1 | | | | IIIB |
| | | | WEIS | | | | 1000.1 | 1001.5 | 1 | | | | IIIG |
| | | | WEIS | | | | 1031.1 | 1031.3 | 1 | | | | IIIB |
| | | | WEIS | | | | 1033.4 | 1033.7 | 1 | | | | IIIB |
| | | | WEIS | | | | 1049.1 | 1049.7 | 1 | | | | IIIB |
| | | | WEIS | | | | 1147.5 | 1150.1 | 1 | | | | IIIG |
| | 1246 | 2300 | HARV | | | | 1253.0 | 1358.0 | 1 | | | | IN |
| | | | HARV | | | | 1317.0 | 2259.0 | 2 | 1642.0 | 1935.0 | 1 | IIIN |
| | | | HARV | 1347.0 | 2135.0 | 1 | | | | | | | I |
| | | | WEIS | | | | 1352.8 | 1353.2 | 2 | | | | IIIB |
| | | | HARV | | | | 1358.0 | 1422.0 | 2 | | | | I |
| | | | HARV | | | | 1408.0 | 1410.0 | 3 | 1409.0 | | 1 | IIIGG |
| | | | WEIS | | | | 1408.1 | 1410.5 | 3 | | | | IIIG |
| | | | SGMR | | | | 1408.8 | 1410.1 | 1 | | | | V |
| | | | WEIS | | | | 1412.4 | 1412.6 | 2 | | | | IIIB |
| | | | HARV | | | | 1415.0 | | 2 | | | | IIIG |
| | | | HARV | | | | 1422.0 | 1700.0 | 1 | | | | IN |
| | | | HARV | | | | 1439.0 | | 2 | | | | IIIG |
| | | | WEIS | | | | 1439.0 | 1439.2 | 1 | | | | IIIB |
| | | | HARV | | | | 1622.0 | 1623.0 | 2 | | | | IIIG |
| | | | WEIS | | | | 1646.4 | 1648.0 | 3 | | | | IIIGG |
| | | | HARV | 1647.0 | 1648.0 | 1 | 1646.0 | 1648.0 | 3 | 1646.0 | 1648.0 | 2 | IIIGG |
| | | | HARV | | | | 1700.0 | 2300.0 | 2 | | | | I |
| | | | PALE | | | | 1843.9 | 1844.8 | 2 | | | | III |
| | | | SGMR | | | | 1843.9 | 1844.8 | 1 | | | | III |
| | | | HARV | | | | 1844.0 | 1845.0 | 3 | 1844.0 | 1845.0 | 2 | IIIG |
| | | | CULG | | | | 2359.0 | | 1 | | | | IIIB |
| 16 | 0000 | 0736 | CULG | 0245.0 | 0655.0 | 1 | | | | | | | IS |
| | | | CULG | 0247.0 | 0247.5 | 1 | 0247.0 | 0247.6 | 1 | | | | IIIG |
| | | | CULG | | | | 0314.5 | 0318.0 | 1 | | | | IS |
| | | | PALE | | | | 0314.9 | 0317.9 | 2 | | | | III |
| | | | CULG | 0315.0 | 0317.0 | 1 | 0314.0 | 0320.5 | 2 | 0315.5 | 0317.0 | 1 | IIIGG |
| | | | LEAR | | | | 0315.2 | 0319.3 | 1 | | | | V |
| | | | CULG | | | | 0415.5 | 0440.0 | | | | | IIIS,W |
| | | | CULG | | | | 0416.0 | 0432.0 | 1 | | | | IIIN |
| | | | CULG | | | | 0653.0 | 0721.0 | | | | | IIIS,W |
| | 0447 | 1449 | WEIS | | | | 0922.4 | 0922.6 | 3 | | | | IIIB |
| | | | WEIS | | | | 0956.1 | 0956.3 | 2 | | | | IIIG |
| | | | WEIS | | | | 1037.3 | 1037.6 | 3 | | | | IIIG |
| | | | WEIS | | | | 1040.4 | 1040.6 | 1 | | | | IIIB |
| | | | WEIS | | | | 1151.8 | 1152.0 | 2 | | | | IIIB |
| | 1246 | 2250 | HARV | 1302.0 | 2235.0 | 1 | | | | | | | I |
| | | | HARV | 1324.0 | 1326.0 | 1 | | | | | | | IIIG |
| | | | HARV | | | | 1330.0 | 1940.0 | 1 | | | | IN |
| | | | WEIS | | | | 1406.7 | 1406.9 | 1 | | | | IIIB |
| | 1514 | 1758 | WEIS | | | | | | | | | | |
| | | | HARV | 1726.0 | | | | | | | | | IIIBW |
| | | | HARV | 1854.0 | | 2 | 1854.0 | | 2 | | | | IIIG |
| | | | HARV | 1924.0 | | 2 | | | | | | | IIIG |
| | | | HARV | | | | 1940.0 | 2250.0 | 2 | | | | I |
| | 2036 | 2400 | CULG | 2040.0 | 2400.0 | 1 | 2040.0 | 2400.0 | 1 | | | | IS,C |
| | | | CULG | | | | 2050.5 | 2248.0 | | | | | IIIS,W |
| | | | CULG | | | | 2056.5 | | 2 | | | | IIIB |
| | | | HARV | | | | 2057.0 | | 2 | | | | IIIB |
| | | | CULG | | | | 2137.5 | 2331.5 | 1 | | | | IIIN |
| | 2147 | 2400 | CULG | | | | 2329.5 | 2341.5 | 1 | | | | IIIS |
| | | | CULG | | | | 2352.5 | 2353.0 | 2 | | | | IIIG |
| | | | LEAR | | | | 2352.9 | 2353.0 | 1 | | | | III |

# SOLAR RADIO EMISSION
# SPECTRAL OBSERVATIONS

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| Day | Observation Start (UT) | Observation End (UT) | Sta | Decimetric Band Start (UT) | Decimetric Band End (UT) | Decimetric Band Int (1-3) | Metric Band Start (UT) | Metric Band End (UT) | Metric Band Int (1-3) | Dekametric Band Start (UT) | Dekametric Band End (UT) | Dekametric Band Int (1-3) | Spectral Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | | | PALE | | | | 2352.9 | 2353.0 | 2 | | | | III |
| 17 | | | CULG | | | | 0000.0 | 0009.0 | | | | | IIIS,W |
| | 0000 | 0736 | CULG | 0000.0 | 0721.0 | 1 | 0000.0 | 0727.0 | 1 | | | | IS,C,DC |
| | | | CULG | 0058.5 | 0059.0 | 1 | | | | | | | CONT |
| | | | CULG | 0058.5 | 0059.0 | 1 | | | | | | | DCIM |
| | | | CULG | 0346.5 | 0347.6 | 1 | | | | | | | DCIM |
| | | | CULG | | | | 0356.0 | | 2 | | | | IIIB |
| | | | CULG | | | | 0627.0 | | 1 | | | | IIIB |
| | | | WEIS | | | | 0659.0 | 1748.0 | 2 | | | | IN |
| | 0529 | 1757 | WEIS | | | | 0816.3 | 0816.4 | 1 | | | | IIIB |
| | 1247 | 2245 | HARV | 1249.0 | 2245.0 | .1 | 1250.0 | 2235.0 | 1 | | | | IN |
| | | | WEIS | | | | 1512.7 | 1513.0 | 1 | | | | IIIB |
| | | | WEIS | | | | 1516.3 | 1521.7 | 3 | | | | IIIGG/V |
| | | | SGMR | | | | 1517.1 | 1524.0 | 2 | | | | V |
| | | | HARV | | | | 1520.0 | 1527.0 | 3 | | | II | |
| | | | HARV | 1520.0 | 1521.0 | 2 | 1516.0 | 1522.0 | 3 | 1516.0 | 1522.0 | 2 | IIIGG,V |
| | | | WEIS | | | | 1520.1 | 1525.2 | 3 | | | II | HARM |
| | | | HARV | | | | 1528.0 | 1529.0 | 2 | | | IV | |
| | | | HARV | | | | 1620.0 | 1621.0 | 2 | | | | IIIG |
| | | | PALE | | | | 1744.7 | 1745.4 | 2 | | | | V |
| | | | WEIS | | | | 1744.8 | 1745.0 | 2 | | | | IIIB |
| | | | HARV | 1748.0 | | 1 | 1744.0 | 1748.0 | 2 | 1744.0 | 1745.0 | 2 | IIIGG,V |
| | | | HARV | | | | 1801.0 | 1807.0 | 2 | 1801.0 | 1807.0 | 2 | IIIGG |
| | | | PALE | | | | 1801.5 | 1802.2 | 2 | | | | III |
| | | | SGMR | | | | 1801.5 | 1807.0 | 1 | | | | V |
| | | | PALE | | | | 1916.8 | 1917.3 | 1 | | | | III |
| | | | HARV | | | | 1917.0 | | 2 | 1917.0 | | 2 | IIIG |
| | | | HARV | | | | 1920.0 | 1921.0 | 2 | 1920.0 | 1921.0 | 2 | IIIG |
| | 2036 | 2400 | CULG | 2039.0 | 2400.0 | 1 | | | | | | | IS,C |
| | | | CULG | | | | 2045.0 | 2055.0 | 1 | | | | IN,C |
| | | | CULG | | | | 2119.5 | 2154.0 | 2 | | | | IIIN |
| | | | HARV | | | | 2120.0 | | 1 | | | | IIIB |
| | | | HARV | | | | 2141.0 | 2143.0 | 2 | 2141.0 | 2143.0 | 1 | IIIG |
| | | | CULG | | | | 2251.5 | 2258.5 | 2 | | | | IIIGG |
| 18 | 0000 | 0736 | CULG | 0000.0 | 0306.5 | 1 | | | | | | | IS,C |
| | | | CULG | | | | 0136.0 | 0234.0 | | | | | IIIS,W |
| | | | PALE | | | | 0233.8 | 0236.2 | 2 | | | | III |
| | | | CULG | | | | 0234.0 | 0236.0 | 2 | 0234.0 | 0236.0 | 2 | IIIG |
| | | | LEAR | | | | 0234.1 | 0236.5 | 1 | | | | III |
| | | | CULG | 0347.0 | 0349.0 | 1 | 0347.0 | 0351.0 | 3 | 0347.5 | 0349.5 | 2 | IIIGG |
| | | | LEAR | | | | 0347.1 | 0352.8 | 2 | | | | V |
| | | | PALE | | | | 0347.1 | 0350.2 | 2 | | | | V |
| | | | CULG | 0352.5 | | 1 | 0352.5 | | 1 | | | | IIIG |
| | | | CULG | 0357.0 | | 1 | 0356.5 | 0358.0 | 2 | | | | IIIG |
| | | | CULG | 0440.0 | 0727.0 | 1 | | | | | | | IS,DC |
| | 0458 | 0958 | WEIS | | | | 0554.0 | 1708.0 | 2 | | | | IN,DC |
| | | | WEIS | | | | 0918.8 | 0918.9 | 1 | | | | IIIB |
| | 1007 | 1754 | WEIS | | | | 1125.4 | 1125.7 | 1 | | | | IIIB |
| | | | WEIS | | | | 1128.8 | 1128.3 | 2 | | | | IIIG |
| | | | WEIS | | | | 1251.1 | 1251.4 | 2 | | | | IIIG |
| | 1246 | 2250 | HARV | 1300.0 | 2246.0 | 1 | 1452.0 | 2242.0 | 1 | | | | IN |
| | | | HARV | | | | 1344.0 | | 2 | | | | IIIB |
| | | | WEIS | | | | 1344.2 | 1344.6 | 2 | | | | IIIB,U |
| | | | WEIS | | | | 1350.1 | 1350.2 | 1 | | | | IIIB |
| | | | HARV | 1516.0 | | 1 | | | | | | | IIIG |
| | | | HARV | | | | 1534.0 | 1538.0 | 2 | 1534.0 | 1538.0 | 2 | IIIGG |
| | | | WEIS | | | | 1534.2 | 1537.9 | 3 | | | | IIIG |
| | | | SGMR | | | | 1535.4 | 1537.2 | 1 | | | | V |
| | | | HARV | | | | 1654.0 | | 1 | | | | IIIB |
| | | | HARV | | | | 1717.0 | 1726.0 | 3 | 1717.0 | 1726.0 | 2 | IIIGG |
| | | | PALE | | | | 1717.5 | 1718.8 | 1 | | | | III |
| | | | SGMR | | | | 1717.5 | 1718.9 | 1 | | | | V |
| | | | WEIS | | | | 1717.5 | 1718.9 | 3 | | | | IIIG,RS |
| | | | WEIS | | | | 1721.0 | 1721.1 | 1 | | | | IIIB |
| | | | WEIS | | | | 1723.8 | 1726.2 | 2 | | | | IIIG |
| | | | SGMR | | | | 1723.9 | 1724.5 | 1 | | | | V |
| | | | HARV | | | | 1738.0 | 1741.0 | 2 | 1738.0 | 1741.0 | 2 | IIIG |
| | | | PALE | | | | 1740.3 | 1740.6 | 1 | | | | III |
| | | | WEIS | | | | 1740.3 | 1740.6 | 2 | | | | IIIB |

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| Day | Observation Start (UT) | Observation End (UT) | Sta | Decimetric Band Start (UT) | Decimetric Band End (UT) | Decimetric Band Int (1-3) | Metric Band Start (UT) | Metric Band End (UT) | Metric Band Int (1-3) | Dekametric Band Start (UT) | Dekametric Band End (UT) | Dekametric Band Int (1-3) | Spectral Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | | | PALE | | | | 1756.9 | 1757.5 | 2 | | | | III |
| | | | SGMR | | | | 1756.9 | 1757.2 | 1 | | | | V |
| | | | HARV | | | | 1757.0 | | 2 | 1757.0 | | 2 | IIIG |
| | | | HARV | | | | 1815.0 | 1817.0 | 2 | 1815.0 | 1817.0 | 1 | IIIG |
| | | | PALE | | | | 1917.7 | 1918.0 | 1 | | | | III |
| | | | HARV | | | | 1918.0 | 1922.0 | 2 | 1918.0 | 1922.0 | 2 | IIIG |
| | | | HARV | | | | 1923.0 | 1926.0 | 3 | 1923.0 | 1926.0 | 2 | IIIGG |
| | | | PALE | | | | 1923.5 | 1926.4 | 3 | | | | V |
| | | | SGMR | | | | 1923.9 | 1925.7 | 2 | | | | V |
| | 2036 | 2400 | CULG | 2037.5 | 2206.0 | 1 | | | | | | | IS,C |
| | | | CULG | 2039.0 | 2039.5 | 1 | | | | | | | DCIM |
| | | | HARV | | | | 2108.0 | 2109.0 | 2 | | | | IIIG,U |
| | | | CULG | | | | 2108.5 | | 1 | | | | IIIB |
| | | | CULG | 2206.0 | 2400.0 | 1 | | | | | | | IN |
| 19 | 0000 | 0732 | CULG | 0000.0 | 0021.0 | 1 | | | | | | | IN,C |
| | | | CULG | 0021.0 | 0714.0 | 1 | | | | | | | IS,C |
| | | | CULG | 0048.0 | 0048.5 | 1 | | | | | | | DCIM |
| | | | CULG | | | | 0325.0 | 0506.0 | 1 | | | | IN |
| | | | WEIS | | | | 0659.0 | 1702.0 | 2 | | | | IN |
| | 0502 | 1702 | WEIS | | | | 0806.7 | 0807.1 | 1 | | | | IIIG |
| | | | WEIS | | | | 1038.0 | 1300.0 | 1 | | | | CONT |
| | | | WEIS | | | | 1112.7 | 1114.4 | 1 | | | | IIIG |
| | 1247 | 2250 | HARV | 1301.0 | 1443.0 | 1 | | | | | | | IN |
| | | | HARV | | | | 1441.0 | 1412.0 | 2 | 1441.0 | 1442.0 | 2 | IIIG |
| | | | WEIS | | | | 1441.4 | 1442.0 | 3 | | | | IIIB |
| | | | SGMR | | | | 1441.5 | 1442.0 | 1 | | | | V |
| | | | HARV | 1443.0 | 2250.0 | 2 | | | | | | | I |
| | | | HARV | | | | 1522.0 | 1523.0 | 2 | | | | IIIG |
| | | | WEIS | | | | 1522.3 | 1523.4 | 2 | | | | IIIG |
| | | | WEIS | | | | 1526.5 | 1526.7 | 1 | | | | IIIB |
| | | | HARV | | | | 2006.0 | | 2 | 2006.0 | | 1 | IIIB |
| | 2037 | 2400 | CULG | 2038.5 | 2323.0 | 1 | | | | | | | IS,C,DC |
| | | | HARV | | | | 2120.0 | 2247.0 | 1 | | | | IN |
| | | | CULG | | | | 2206.0 | | 1 | | | | IIIB |
| | | | CULG | | | | 2229.5 | 2230.0 | 2 | | | | IIIB,U |
| | | | CULG | | | | 2235.0 | | 1 | | | | IIIB |
| | | | CULG | 2323.0 | 2349.0 | 1 | | | | | | | IN |
| | | | CULG | 2323.0 | 2400.0 | 1 | | | | | | | CONT |
| 20 | 0000 | 0735 | CULG | 0010.0 | 0058.5 | 1 | | | | | | | IN,C |
| | | | CULG | 0058.5 | 0728.5 | 1 | | | | | | | IS,C,DC |
| | | | LEAR | | | | 0132.9 | 0133.4 | 1 | | | | III |
| | | | CULG | | | | 0254.0 | 0257.5 | 1 | | | | IS |
| | | | CULG | | | | 0258.0 | 0333.5 | 1 | | | | IIIN |
| | | | LEAR | | | | 0258.1 | 0258.5 | 1 | | | | III |
| | | | LEAR | | | | 0333.2 | 0334.1 | 1 | | | | III |
| | | | CULG | | | | 0501.5 | 0535.0 | 1 | | | | IS |
| | | | CULG | | | | 0535.0 | 0738.0 | 1 | | | | IN |
| | 0534 | 1751 | WEIS | | | | 0600.0 | 1740.0 | 3 | | | | I |
| | | | WEIS | | | | 0959.3 | 0959.5 | 1 | | | | IIIB |
| | 1300 | 2255 | HARV | | | | 1300.0 | 1358.0 | 2 | | | | IC |
| | | | HARV | 1304.0 | 1415.0 | 1 | | | | | | | INW |
| | | | HARV | | | | 1358.0 | 1925.0 | 2 | | | | I |
| | | | HARV | 1415.0 | 1800.0 | 2 | | | | | | | I |
| | | | HARV | | | | 1925.0 | 2124.0 | 1 | | | | IN |
| | | | HARV | 2013.0 | 2019.0 | 2 | | | | | | | IIIGG |
| | 2036 | 2400 | CULG | 2040.5 | 2342.0 | | | | | | | | IS,W |
| | | | CULG | | | | 2105.0 | | 1 | | | | IIIG |
| 21 | 0000 | 0735 | CULG | | | | 0019.0 | 0103.0 | 1 | | | | IIIN |
| | | | CULG | 0440.5 | 0730.5 | 1 | | | | | | | IN |
| | | | CULG | 0636.0 | 0636.5 | 1 | | | | | | | IIIG |
| | 0501 | 1244 | WEIS | | | | 1044.5 | 1046.3 | 2 | | | | DCIM |
| | | | WEIS | | | | 1053.7 | 1054.0 | 1 | | | | IIIB |
| | 1304 | 1750 | WEIS | | | | | | | | | | |
| | 1300 | 2310 | HARV | 1304.0 | 2310.0 | 1 | 1303.0 | 2310.0 | 1 | | | | IN |
| | 2035 | 2400 | CULG | 2134.5 | 2400.0 | 1 | | | | | | | IS,C |
| | | | HARV | | | | 2235.0 | 2236.0 | 1 | 2235.0 | 2236.0 | 1 | IIIGW |
| | | | CULG | | | | 2235.5 | | 2 | | | | IIIB |
| 22 | 0000 | 0735 | CULG | 0000.0 | 0254.0 | 1 | | | | | | | IS,C |

# SOLAR RADIO EMISSION
# SPECTRAL OBSERVATIONS

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| Day | Observation Start (UT) | Observation End (UT) | Sta | Decimetric Band Start (UT) | Decimetric Band End (UT) | Decimetric Band Int (1-3) | Metric Band Start (UT) | Metric Band End (UT) | Metric Band Int (1-3) | Dekametric Band Start (UT) | Dekametric Band End (UT) | Dekametric Band Int (1-3) | Spectral Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | | | CULG | 0300.5 | 0730.0 | 1 | | | | | | | IN |
| | 0603 | 1747 | WEIS | | | | 0923.0 | 1640.0 | 1 | | | | IN |
| | 1300 | 2310 | HARV | | | | 1402.0 | 2300.0 | 1 | | | | INW |
| | | | HARV | | | | 1701.0 | 1702.0 | 1 | | | | IIIGW |
| | | | HARV | 1818.0 | 2240.0 | 1 | | | | | | | INW |
| | 2035 | 2400 | CULG | 2037.0 | 2400.0 | 1 | | | | | | | IS,DC |
| 23 | 0000 | 0735 | CULG | 0001.0 | 0120.0 | 1 | | | | | | | IN,C |
| | | | CULG | | | | 0049.0 | 0100.0 | 1 | 0049.5 | 0054.0 | 1 | IIIN |
| | | | LEAR | | | | 0049.6 | 0054.3 | 1 | | | | III |
| | | | CULG | 0316.5 | 0556.0 | | | | | | | | IS,W |
| | 0508 | 0750 | WEIS | | | | | | | | | | |
| | 0757 | 1746 | WEIS | | | | 1240.3 | 1240.5 | 1 | | | | IIIB |
| | 1300 | 2300 | HARV | 1356.0 | 2211.0 | 1 | | | | | | | IN |
| | | | HARV | | | | 1548.0 | 1549.0 | 1 | | | | IIIGW |
| | 2035 | 2400 | CULG | 2036.0 | 2114.0 | | | | | | | | IS,W,C |
| | | | CULG | 2345.0 | 2400.0 | | | | | | | | IS,W,C |
| 24 | 0000 | 0735 | CULG | 0000.0 | 0142.5 | | | | | | | | IS,W,C |
| | 0509 | 1221 | WEIS | | | | 0536.7 | 0536.8 | 1 | | | | IIIB |
| | | | LEAR | | | | 0536.8 | 0537.3 | 1 | | | | III |
| | | | CULG | | | | 0537.0 | | 2 | | | | IIIB |
| | | | CULG | | | | 0542.0 | | 1 | | | | IIIB |
| | | | WEIS | | | | 0542.2 | 0542.3 | 1 | | | | IIIB |
| | | | CULG | | | | 0655.5 | | 1 | | | | IIIB |
| | | | WEIS | | | | 0946.3 | 0946.8 | 3 | | | | IIIB |
| | 1300 | 2230 | HARV | 1330.0 | 2330.0 | 1 | | | | | | | IN |
| | 1536 | 1746 | WEIS | | | | 1543.0 | 1657.0 | 1 | | | | IN |
| | | | HARV | | | | 1901.0 | 1907.0 | 1 | | | | IW |
| | 2036 | 2400 | CULG | 2036.0 | 2400.0 | 1 | | | | | | | IS,DC |
| | | | CULG | | | | 2051.0 | | 1 | | | | IIIB |
| | | | CULG | | | | 2303.0 | | 1 | | | | IIIB |
| 25 | 0000 | 0310 | CULG | 0000.0 | 0302.0 | | | | | | | | IS,W |
| | | | CULG | | | | 0245.5 | 0246.0 | 2 | 0245.5 | 0247.0 | 1 | IIIG,V,U |
| | | | LEAR | | | | 0245.8 | 0246.3 | 1 | | | | III |
| | | | LEAR | | | | 0254.9 | 0255.5 | 1 | | | | III |
| | | | CULG | | | | 0255.0 | | 1 | | | | IIIB |
| | | | CULG | 0302.0 | 0310.5 | 1 | | | | | | | IS |
| | 0332 | 0734 | CULG | 0332.5 | 0610.0 | 1 | | | | | | | IS,C |
| | 0512 | 1743 | WEIS | | | | 0528.0 | 1702.0 | 2 | | | | IS,DC |
| | | | CULG | 0610.0 | 0734.5 | 2 | | | | | | | IS,C |
| | | | CULG | | | | 0619.5 | 0723.0 | 1 | | | | IIIN |
| | | | CULG | | | | 0629.0 | 0725.0 | 1 | | | | IN |
| | | | LEAR | | | | 0759.7 | 0800.0 | 1 | | | | III |
| | 1300 | 2250 | HARV | | | | 1302.0 | 1700.0 | 2 | | | | I |
| | | | HARV | | | | 1444.0 | 2114.0 | 2 | 1746.0 | 2049.0 | 2 | IIIN |
| | | | WEIS | | | | 1444.6 | 1444.7 | 2 | | | | IIIB |
| | | | HARV | | | | 1700.0 | 2250.0 | 1 | | | | IN |
| | | | HARV | 1758.0 | 2223.0 | 1 | | | | | | | INW |
| | 2035 | 2400 | CULG | 2042.5 | 2358.5 | 1 | | | | | | | IN |
| | | | CULG | | | | 2048.5 | 2320.0 | 1 | | | | IIIN |
| | | | CULG | | | | 2159.5 | | 2 | | | | IIIB |
| | | | PALE | | | | 2228.5 | 2228.9 | 2 | | | | III |
| 26 | 0000 | 0734 | CULG | 0000.0 | 0230.0 | 1 | | | | | | | IN |
| | | | CULG | | | | 0015.0 | 0530.0 | 1 | | | | IIIN |
| | | | CULG | 0230.0 | 0734.0 | 1 | | | | | | | IS |
| | | | CULG | | | | 0253.5 | 0356.0 | 1 | | | | IN |
| | | | CULG | | | | 0253.5 | 0530.0 | | | | | IIIS,W |
| | | | CULG | | | | 0356.0 | 0545.0 | 1 | | | | IS,DC |
| | 0509 | 1047 | WEIS | | | | | | | | | | |
| | | | CULG | | | | 0530.0 | 0727.0 | 1 | | | | IIIS |
| | | | CULG | | | | 0540.0 | | 2 | | | | IIIB |
| | | | CULG | | | | 0545.0 | 0734.0 | 2 | | | | IS,DC |
| | 1051 | 1741 | WEIS | | | | | | | | | | |
| | 1300 | 2240 | HARV | | | | 1300.0 | 1618.0 | 2 | | | | IC |
| | | | HARV | 1342.0 | 2240.0 | 1 | | | | | | | IN |
| | | | HARV | | | | 1618.0 | 1740.0 | 2 | | | | I |
| | | | HARV | | | | 1740.0 | 2240.0 | 2 | | | | IC |
| | | | HARV | | | | 1811.0 | | 2 | 1811.0 | | 2 | IIIG |

AUGUST 1982

| Day | Observation Start (UT) | Observation End (UT) | Sta | Decimetric Band Start (UT) | Decimetric Band End (UT) | Decimetric Band Int (1-3) | Metric Band Start (UT) | Metric Band End (UT) | Metric Band Int (1-3) | Dekametric Band Start (UT) | Dekametric Band End (UT) | Dekametric Band Int (1-3) | Spectral Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 26 | | | HARV | | | | | | | 2008.0 | | 2 | IIIG |
| | | | PALE | | | | 2008.2 | 2038.2 | 2 | | | | GG |
| | | | CULG | | | | 2038.0 | 2358.0 | 1 | | | | IIIN |
| | | | HARV | | | | 2038.0 | | 2 | 2038.0 | | 2 | IIIG |
| | 2034 | 2400 | CULG | 2054.0 | 2400.0 | 1 | 2034.0 | 2357.5 | 1 | | | | IS,C,DC |
| 27 | 0000 | 0733 | CULG | 0000.0 | 0733.5 | 1 | 0014.0 | 0200.0 | 1 | | | | IS,DC |
| | | | CULG | | | | 0021.5 | 0733.5 | | | | | IIIS,W |
| | | | CULG | | | | 0023.0 | 0656.5 | 1 | | | | IIIN |
| | | | CULG | | | | 0100.0 | 0733.5 | 1 | | | | CONT |
| | | | LEAR | | | | 0116.9 | 0134.2 | 1 | | | | GG |
| | | | PALE | | | | 0116.9 | 0134.1 | 1 | | | | GG |
| | | | CULG | | | | | | | 0142.0 | 0148.0 | | SWF,W |
| | | | CULG | | | | 0200.0 | 0733.5 | 2 | | | | IS,DC |
| | | | LEAR | | | | 0214.0 | 0955.0 | 1 | | | | CONT |
| | | | CULG | | | | 0355.5 | | 2 | | | | IIIB |
| | 0509 | 1739 | WEIS | | | | 0524.0 | 1434.0 | 3 | | | | IS,DC |
| | | | WEIS | | | | 0736.7 | 0741.9 | 2 | | | | IIIG |
| | 1300 | 2300 | HARV | | | | 1300.0 | 2300.0 | 2 | | | | IC |
| | | | HARV | | | | 1325.0 | | 1 | | | | IIIG |
| | | | WEIS | | | | 1325.1 | 1326.4 | 2 | | | | IIIG |
| | | | HARV | 1358.0 | | 1 | | | | | | | IIIG |
| | | | HARV | | | | 1423.0 | 1424.0 | 2 | | | | IIIG |
| | | | WEIS | | | | 1423.4 | 1423.5 | 2 | | | | IIIG |
| | | | HARV | | | | 1503.0 | 1512.0 | 1 | | | | IIIGW |
| | | | HARV | 1523.0 | 2300.0 | 1 | | | | | | | INW |
| | | | HARV | | | | 1542.0 | | 2 | 1542.0 | | 1 | IIIG |
| | | | WEIS | | | | 1542.3 | 1542.5 | 1 | | | | IIIB |
| | | | HARV | | | | 1549.0 | 1550.0 | 1 | | | | IIIGW |
| | | | HARV | | | | 1557.0 | | 1 | | | | IIIG |
| | | | HARV | | | | 1621.0 | | 2 | 1621.0 | | 1 | IIIG |
| | | | WEIS | | | | 1621.1 | 1621.2 | 1 | | | | IIIB |
| | | | HARV | | | | 1638.0 | | 1 | 1638.0 | | 1 | IIIGW |
| | | | HARV | | | | 1658.0 | | 2 | 1658.0 | | 2 | IIIG |
| | | | HARV | | | | 1826.0 | | 2 | 1826.0 | | 1 | IIIG |
| | | | HARV | | | | 1834.0 | 1836.0 | 1 | 1834.0 | 1836.0 | 1 | IIIGW |
| | | | HARV | 1842.0 | 1843.0 | 2 | 1842.0 | 1843.0 | 2 | | | | IIIG |
| | | | HARV | | | | 1930.0 | 1931.0 | 2 | | | | IIIG |
| | | | CULG | 2033.5 | 2400.0 | 2 | 2033.5 | 2400.0 | 2 | | | | IS,C,DC |
| | 2033 | 2400 | CULG | | | | 2033.5 | 2400.0 | 1 | | | | IIIS |
| | | | HARV | | | | 2052.0 | 2053.0 | 2 | 2052.0 | 2053.0 | 2 | IIIG |
| | | | CULG | | | | 2052.5 | | 3 | | | | IIIB |
| | | | PALE | | | | 2052.7 | 2052.9 | 2 | | | | V |
| | | | HARV | 2129.0 | 2130.0 | 2 | | | | | | | IIIG |
| | | | CULG | | | | 2129.5 | | 2 | | | | IIIB,U |
| | | | CULG | | | | 2149.5 | 2150.0 | 3 | | | | IIIG |
| | | | PALE | | | | 2149.8 | 2150.2 | 1 | | | | V |
| | | | HARV | | | | 2150.0 | | 2 | | | | IIIG |
| | | | HARV | 2246.0 | 2256.0 | 2 | 2256.0 | | 1 | | | | IIIGG |
| | | | CULG | 2247.0 | 2256.0 | 2 | | | | | | | IIIN |
| 28 | | | CULG | | | | 0000.0 | 0103.0 | | | | | IIIS,W |
| | 0000 | 0733 | CULG | 0000.0 | 0733.0 | 1 | 0000.0 | 0733.0 | 2 | | | | IS,C,DC |
| | | | CULG | | | | 0005.5 | 0103.0 | 1 | | | | IIIN |
| | | | CULG | | | | 0012.0 | 0447.0 | 2 | | | | IIIN |
| | | | CULG | | | | 0103.0 | 0733.0 | 1 | | | | IIIS |
| | | | LEAR | | | | 0202.7 | 0955.0 | 1 | | | | CONT |
| | 0510 | 0548 | WEIS | | | | | | | | | | |
| | 0552 | 1256 | WEIS | | | | 0552.0 | 1732.0 | 3 | | | | IS,DC |
| | 1315 | 1737 | WEIS | | | | 0608.0 | 1722.0 | 1 | | | | IIIN |
| | | | WEIS | 1234.3 | 1235.3 | 3 | | | | | | | DCIM |
| | 1300 | 2315 | HARV | | | | 1300.0 | 1800.0 | 2 | | | | I |
| | | | HARV | 1306.0 | 2257.0 | 1 | | | | | | | IN |
| | | | HARV | 1312.0 | 1318.0 | 3 | | | | | | | IIIGG |
| | | | HARV | | | | 1535.0 | 1536.0 | 2 | | | | IIIG |
| | | | HARV | | | | 1559.0 | 1857.0 | 2 | 1559.0 | 1857.0 | 2 | IIIN |
| | | | HARV | 1627.0 | 1634.0 | 2 | 1627.0 | 1634.0 | 2 | 1631.0 | | 2 | IIIGG |
| | | | WEIS | | | | 1627.4 | 1633.6 | 2 | | | | DCIM |
| | | | HARV | 1658.0 | 1659.0 | 2 | 1658.0 | 1659.0 | 2 | | | | IIIG |
| | | | WEIS | | | | 1658.6 | 1658.8 | 2 | | | | IIIG |
| | | | HARV | | | | 1709.0 | 1710.0 | 2 | 1709.0 | 1710.0 | 2 | IIIG |

# SOLAR RADIO EMISSION
# SPECTRAL OBSERVATIONS

AUGUST 1982

| Day | Observation Start (UT) | Observation End (UT) | Sta | Decimetric Band Start (UT) | Decimetric Band End (UT) | Decimetric Band Int (1-3) | Metric Band Start (UT) | Metric Band End (UT) | Metric Band Int (1-3) | Dekametric Band Start (UT) | Dekametric Band End (UT) | Dekametric Band Int (1-3) | Spectral Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 28 | | | HARV | | | | 1721.0 | | 2 | 1721.0 | | 2 | IIIG |
| | | | HARV | 1744.0 | 1745.0 | 2 | | | | 1744.0 | 1745.0 | 1 | IIIG |
| | | | HARV | | | | 1800.0 | 2315.0 | 2 | | | | IC |
| | | | HARV | 1802.0 | 1804.0 | 3 | 1802.0 | 1804.0 | 3 | 1802.0 | 1804.0 | 2 | IIIGG,V |
| | | | HARV | | | | 1836.0 | | 2 | 1836.0 | | 2 | IIIG |
| | | | HARV | | | | 1901.0 | 2224.0 | 1 | 1906.0 | 2107.0 | 2 | IIIS |
| | 2033 | 2400 | CULG | 2033.5 | 2244.5 | 1 | 2033.5 | 2400.0 | 1 | | | | IS,C,DC |
| | | | CULG | | | | 2034.0 | 2150.0 | 1 | | | | IIIS |
| | | | CULG | | | | 2102.0 | 2300.0 | 2 | | | | IIIN |
| | | | HARV | 2148.0 | 2151.0 | 3 | 2149.0 | 2150.0 | 2 | | | | IIIGG |
| | | | CULG | 2149.0 | 2151.0 | 1 | | | | | | | DCIM |
| | | | CULG | | | | 2150.0 | 2400.0 | | | | | IIIS,W |
| | | | CULG | | | | 2201.0 | 2316.0 | 1 | | | | IIIN |
| | | | HARV | 2208.0 | | 2 | | | | | | | IIIG |
| | | | HARV | | | | 2224.0 | 2315.0 | 2 | | | | IIIN |
| | | | CULG | 2244.5 | 2400.0 | | | | | | | | IS,W |
| | | | CULG | 2258.0 | 2300.5 | 2 | | | | | | | IIIG |
| | | | CULG | 2258.0 | 2301.0 | 2 | | | | | | | DCIM,N |
| | | | HARV | 2258.0 | 2301.0 | 3 | 2258.0 | 2301.0 | 2 | | | | IIIGG |
| | | | PALE | | | | 2347.2 | 2350.8 | 3 | | | | III |
| | | | LEAR | | | | 2347.9 | 2353.3 | 2 | | | | III |
| | | | CULG | | | | 2349.0 | 2350.0 | 3 | 2349.5 | | 1 | IIIG |
| | | | CULG | 2349.0 | 2351.0 | 2 | 2347.5 | 2353.0 | 2 | | | | IIIGG |
| | | | CULG | 2354.0 | | 1 | 2354.0 | | 2 | | | | IIIG |
| 29 | | | CULG | | | | 0000.0 | 0654.5 | | | | | IIIS,W |
| | | | CULG | | | | 0000.0 | 0733.0 | 1 | | | | IS,DC |
| | 0000 | 0733 | CULG | 0000.0 | 0733.0 | | | | | | | | IS,W |
| | | | CULG | | | | 0002.5 | 0646.5 | 1 | | | | IIIN |
| | | | LEAR | | | | 0125.5 | 0956.0 | 1 | | | | CONT |
| | | | CULG | 0314.5 | 0317.0 | 1 | | | | | | | IIIG |
| | | | CULG | 0320.0 | 0400.0 | 1 | | | | | | | IS |
| | | | CULG | 0413.0 | 0413.5 | 1 | | | | | | | IIIG,U |
| | 1300 | 2305 | HARV | | | | 1300.0 | 1540.0 | 2 | | | | I |
| | | | HARV | 1506.0 | 2305.0 | 1 | | | | | | | IN |
| | | | HARV | | | | 1540.0 | 2230.0 | 1 | | | | INW |
| | 0513 | 1739 | WEIS | | | | 1730.4 | 1730.5 | 2 | | | | RS |
| | | | HARV | | | | 1741.0 | 1745.0 | 1 | | | | IIIGW |
| | | | HARV | | | | 1929.0 | 1930.0 | 1 | 1929.0 | | 1 | IIIG |
| | | | HARV | | | | 2031.0 | | 2 | 2031.0 | | 2 | IIIB |
| | 2033 | 2400 | CULG | 2033.0 | 2232.0 | 1 | | | | | | | IN |
| | | | CULG | | | | 2050.5 | 2328.0 | 1 | | | | IIIN |
| | | | HARV | | | | 2158.0 | 2159.0 | 1 | 2158.0 | 2159.0 | 1 | IIIB |
| | | | HARV | | | | 2249.0 | 2250.0 | 2 | | | | IIIG |
| | | | LEAR | | | | 2347.9 | 2353.3 | 2 | | | | III |
| 30 | 0000 | 0732 | CULG | | | | 0236.5 | 0508.0 | 1 | | | | IIIN |
| | | | CULG | 0333.0 | 0706.0 | | | | | | | | IS,W |
| | | | CULG | | | | 0408.5 | 0409.0 | 2 | | | | IIIG,U |
| | | | CULG | | | | 0455.0 | 0635.0 | 1 | | | | IS |
| | 0513 | 1251 | WEIS | | | | | | | | | | |
| | 1300 | 2245 | HARV | 1304.0 | 1723.0 | 1 | | | | | | | IN |
| | | | HARV | | | | 1431.0 | 1520.0 | 2 | | | | I |
| | | | HARV | | | | 1520.0 | 2245.0 | 1 | | | | IN |
| | | | HARV | | | | 1559.0 | | 2 | | | | IIIG |
| | | | HARV | | | | 1701.0 | | 1 | | | | IIIG |
| | | | HARV | 1723.0 | 1814.0 | 2 | | | | | | | I |
| | | | HARV | 1814.0 | 2245.0 | 1 | | | | | | | I |
| | | | HARV | | | | 1959.0 | | 1 | 1959.0 | | 1 | IIIG |
| | 2033 | 2400 | CULG | 2033.0 | 2400.0 | 1 | 2033.0 | 2046.5 | 1 | | | | IS,DC |
| | | | CULG | | | | 2125.0 | | 2 | | | | IIIB |
| | | | HARV | | | | 2125.0 | | 2 | 2125.0 | | 1 | IIIB |
| | | | HARV | | | | 2159.0 | | 1 | | | | IIIB |
| | | | CULG | | | | 2207.0 | | 1 | | | | IIIB |
| | | | HARV | | | | 2207.0 | | 2 | | | | IIIB |
| | | | CULG | | | | 2242.0 | 2311.0 | | | | | IIIS,W |
| | | | HARV | | | | 2244.0 | 2245.0 | 1 | | | | IIIB |
| 31 | 0000 | 0732 | CULG | 0000.0 | 0732.5 | 1 | | | | | | | IS |
| | | | CULG | | | | 0007.5 | 0045.0 | | | | | IIIS,W |
| | | | CULG | 0156.5 | 0157.5 | 2 | | | | | | | CONT |

# SOLAR RADIO EMISSION
# SPECTRAL OBSERVATIONS

AUGUST 1982

| Observation Start (UT) | Observation End (UT) | Sta | Decimetric Band Start (UT) | Decimetric Band End (UT) | Decimetric Band Int (1-3) | Metric Band Start (UT) | Metric Band End (UT) | Metric Band Int (1-3) | Dekametric Band Start (UT) | Dekametric Band End (UT) | Dekametric Band Int (1-3) | Spectral Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Day 31** | | CULG | | | | 0203.5 | | 1 | | | | IIIB |
| | | CULG | | | | 0433.0 | 0720.0 | 1 | | | | IN |
| 0523 | 0916 | WEIS | | | | 0555.0 | 1717.0 | 3 | | | | IS,DC |
| | | CULG | | | | 0615.5 | | 1 | | | | IIIG |
| 0923 | 1731 | WEIS | | | | 0703.1 | 0703.2 | 1 | | | | IIIB |
| 1300 | 2245 | HARV | | | | 1302.0 | 2226.0 | 1 | | | | IN |
| | | HARV | 1308.0 | 2245.0 | 1 | | | | | | | INW |
| | | HARV | | | | 1506.0 | 1508.0 | 2 | | | | IIIG |
| | | WEIS | | | | 1506.6 | 1507.9 | 1 | | | | IIIG |
| | | HARV | | | | 1936.0 | | 2 | 1936.0 | | 1 | IIIG |
| 2032 | 2400 | CULG | 2034.0 | 2350.0 | 1 | 2032.5 | 2103.0 | 1 | | | | IS |
| | | CULG | | | | 2037.0 | 2306.0 | 1 | | | | IIIN |
| | | HARV | | | | 2159.0 | 2200.0 | 2 | | | | IIIG |
| | | CULG | 2350.0 | 2400.0 | | | | | | | | IS,W |

The symbols used under the column heading SPECTRAL TYPE have the following definitions:

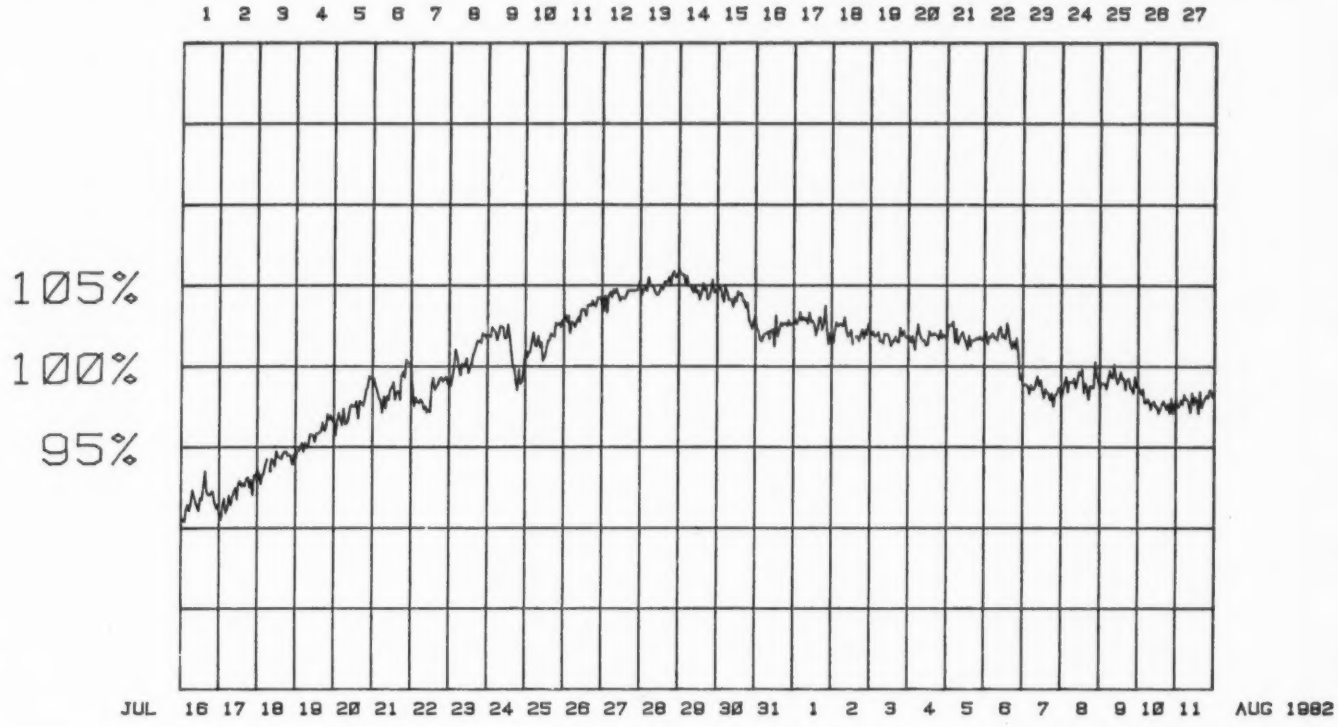
B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (particularly with Type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

ERRATA: July 1982 Spectral data appearing in SGD 457 Part I, page 135, September 1982 issue:

On Day 10 the CULG observation in the Decimetric Band which begins at 2030.5 and ends at 0637.5 should read as begin time 0030.5 and end time 0637.5.

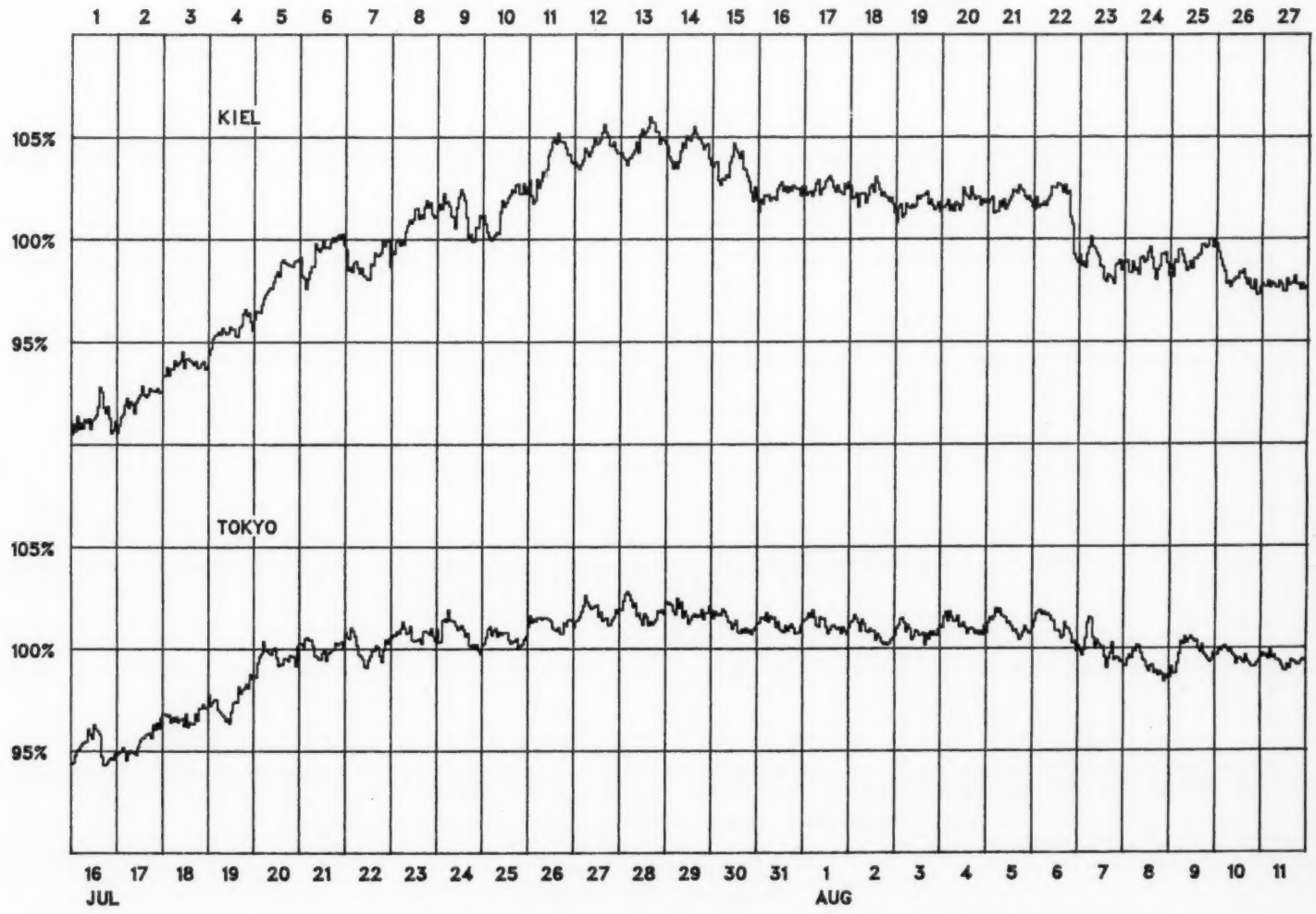
# THULE NEUTRON MONITOR




## BARTELS ROTATION 2036

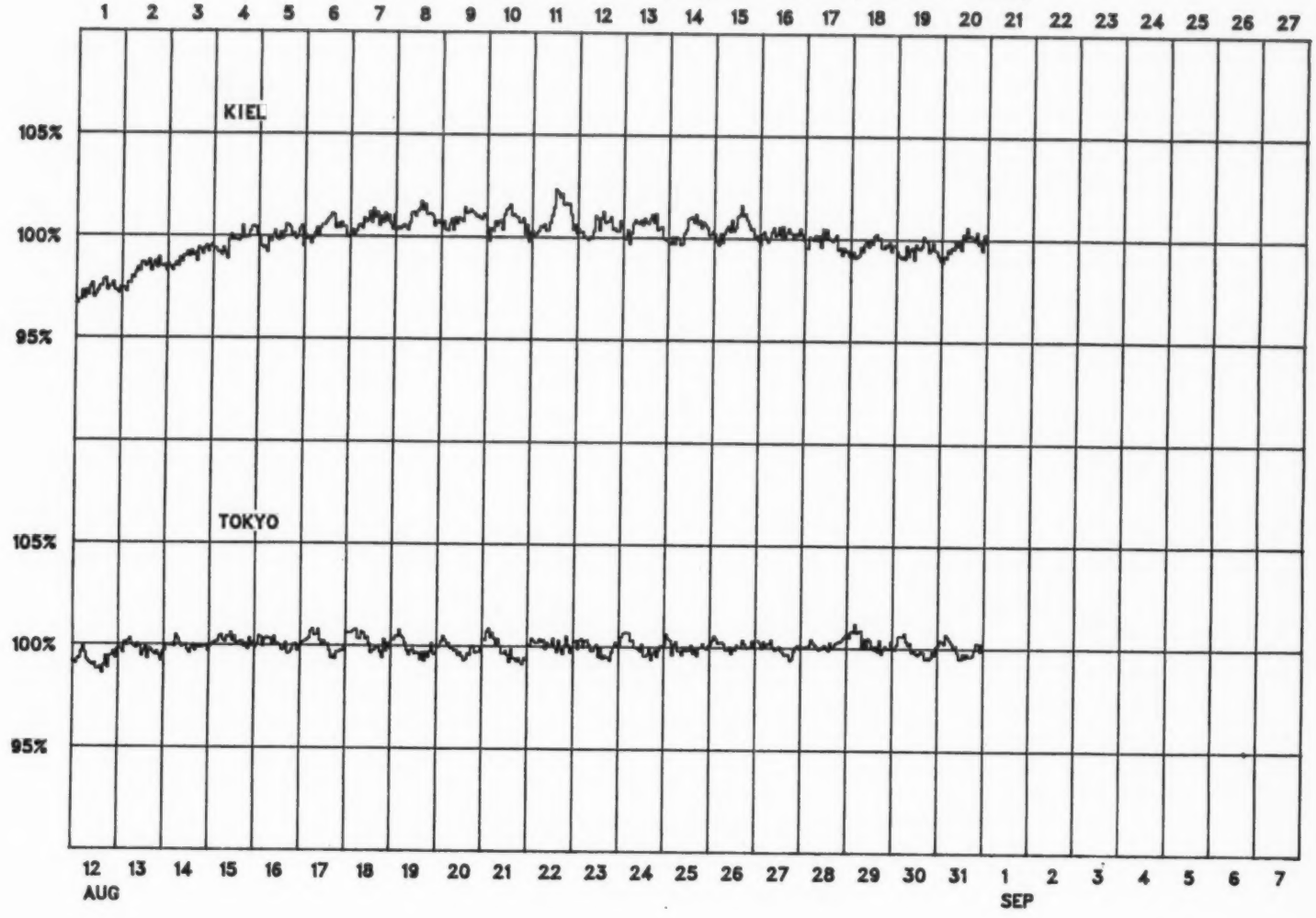
## COSMIC RAY INDICES
## (Neutron Monitor)

Bartels Rotation 2036 (July 1982–August 1982)



# COSMIC RAY INDICES
## (Neutron Monitor)

Bartels Rotation 2037 (August 1982–September 1982)



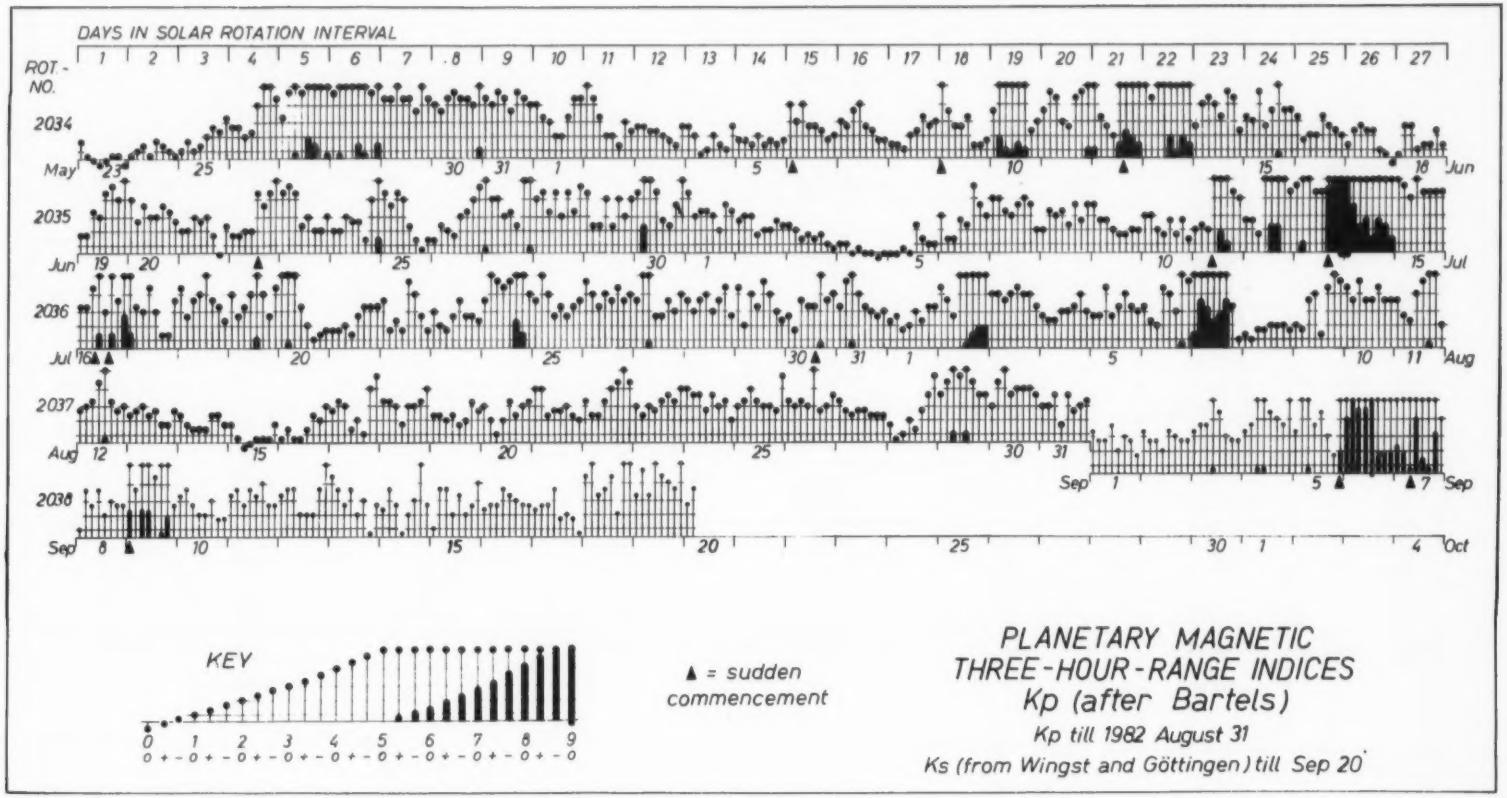
# COSMIC RAY INDICES
(Neutron Monitors)
August 1982

| August 1982 | THULE Average (cts/h)/100 | ALERT Average (cts/h)/100 | DEEP RIVER Average (cts/h)/300 | KIEL Average (cts/h)/100 | CLIMAX Average (cts/h)/100 | TOKYO Average (cts/h)/100 | HUANCAYO Average (cts/h)/100) |
|---|---|---|---|---|---|---|---|
| 1 | 3912 | | | 5462.9 | | 3438.7 | |
| 2 | 3893 | | | 5444.3 | | 3425.8 | |
| 3 | 3880 | | | 5418.0 | | 3426.3 | |
| 4 | 3880 | | | 5427.1 | | 3436.9 | |
| 5 | 3881 | | | 5430.8 | | 3438.1 | |
| 6 | 3866 | | | 5417.0 | | 3436.3 | |
| 7 | 3755 | | | 5266.2 | | 3399.5 | |
| 8 | 3772 | | | 5266.0 | | 3371.6 | |
| 9 | 3776 | | | 5287.1 | | 3390.9 | |
| 10 | 3724 | | | 5229.6 | | 3383.0 | |
| 11 | 3732 | | | 5209.7 | | 3376.6 | |
| 12 | 3728 | | | 5224.3 | | 3390.4 | |
| 13 | 3775 | | | 5275.2 | | 3408.8 | |
| 14 | 3815 | | | 5315.4 | | 3414.5 | |
| 15 | 3853 | | | 5356.5 | | 3423.0 | |
| 16 | 3869 | | | 5367.1 | | 3418.4 | |
| 17 | 3874 | | | 5389.0 | | 3419.2 | |
| 18 | 3883 | | | 5406.6 | | 3424.1 | |
| 19 | 3888 | | | 5416.0 | | 3413.5 | |
| 20 | 3884 | | | 5415.7 | | 3411.2 | |
| 21 | 3884 | | | 5406.0 | | 3411.8 | |
| 22 | 3900 | | | 5421.3 | | 3420.1 | |
| 23 | 3876 | | | 5394.7 | | 3414.2 | |
| 24 | 3894 | | | 5395.9 | | 3417.9 | |
| 25 | 3875 | | | 5388.3 | | 3416.5 | |
| 26 | 3882 | | | 5394.8 | | 3420.9 | |
| 27 | 3883 | | | 5379.9 | | 3416.1 | |
| 28 | 3862 | | | 5359.7 | | 3422.5 | |
| 29 | 3847 | | | 5350.0 | | 3428.6 | |
| 30 | 3831 | | | 5340.6 | | 3416.7 | |
| 31 | 3854 | | | 5358.2 | | 3417.8 | |
| Mean | 3846 | | | 5361.7 | | 3414.5 | |

Data not available at time of publication

For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax and Huancayo, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

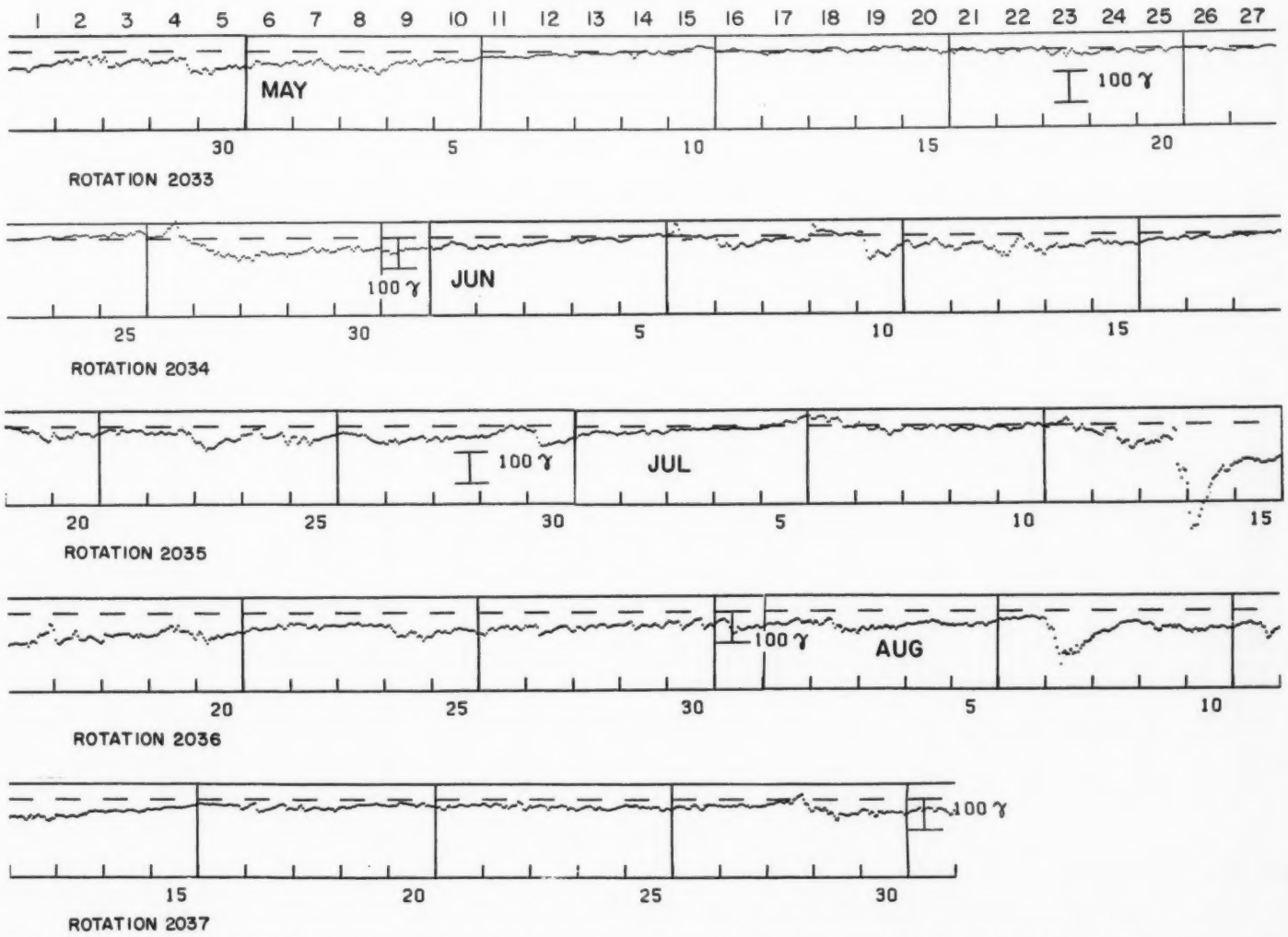
# GEOMAGNETIC ACTIVITY INDICES



# GEOMAGNETIC ACTIVITY INDICES

## Hourly Equatorial Dst

by Bartels Rotation




Note: Both the sensitivity indicator placed on the last day of the month and the zero reference level change from month to month.

# HOURLY EQUATORIAL Dst VALUES (PROVISIONAL)

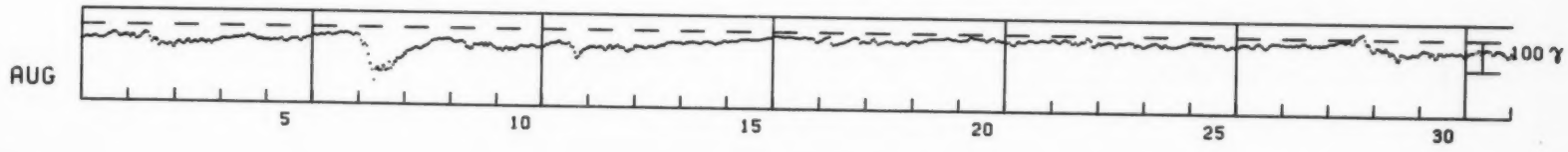
NASA/GODDARD SPACE FLIGHT CENTER

AUGUST 1982

(Time-UT)

(Units-Gammas)

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -46 | -41 | -40 | -43 | -44 | -40 | -38 | -42 | -45 | -43 | -45 | -42 | -38 | -34 | -31 | -27 | -25 | -29 | -36 | -39 | -37 | -34 | -33 | -36 |
| 2 | -42 | -34 | -39 | -46 | -44 | -41 | -34 | -29 | -25 | -29 | -42 | -56 | -48 | -47 | -53 | -67 | -59 | -59 | -64 | -67 | -61 | -62 | -74 | -63 |
| 3 | -56 | -52 | -58 | -61 | -61 | -54 | -49 | -59 | -58 | -53 | -53 | -57 | -50 | -50 | -51 | -57 | -52 | -52 | -60 | -53 | -50 | -50 | -48 | -44 |
| 4 | -41 | -43 | -42 | -43 | -43 | -41 | -36 | -38 | -38 | -37 | -34 | -39 | -34 | -30 | -31 | -35 | -33 | -38 | -44 | -42 | -42 | -44 | -45 | -45 |
| 5 | -43 | -48 | -45 | -44 | -45 | -46 | -42 | -40 | -48 | -49 | -48 | -43 | -39 | -40 | -40 | -39 | -46 | -47 | -39 | -40 | -35 | -35 | -32 | -25 |
| 6 | -26 | -30 | -28 | -25 | -25 | -28 | -23 | -22 | -24 | -28 | -25 | -24 | -21 | -18 | -19 | -20 | -17 | -19 | -21 | -24 | -28 | -22 | -23 | -27 |
| 7 | -46 | -59 | -54 | -62 | -90 | -120 | -140 | -173 | -137 | -131 | -139 | -140 | -127 | -140 | -136 | -114 | -135 | -123 | -113 | -101 | -102 | -99 | -94 | -83 |
| 8 | -78 | -75 | -74 | -70 | -66 | -64 | -66 | -69 | -65 | -59 | -58 | -53 | -48 | -42 | -39 | -39 | -38 | -35 | -38 | -36 | -35 | -33 | -33 | -37 |
| 9 | -42 | -45 | -44 | -43 | -41 | -42 | -47 | -59 | -61 | -67 | -61 | -51 | -52 | -52 | -51 | -48 | -55 | -48 | -57 | -49 | -52 | -58 | -61 | -66 |
| 10 | -65 | -65 | -72 | -64 | -59 | -64 | -68 | -63 | -67 | -67 | -61 | -55 | -53 | -56 | -56 | -57 | -56 | -52 | -53 | -55 | -60 | -58 | -56 | -58 |
| 11 | -55 | -49 | -50 | -45 | -43 | -44 | -43 | -39 | -39 | -45 | -45 | -48 | -45 | -44 | -55 | -58 | -75 | -91 | -86 | -77 | -67 | -64 | -60 | -56 |
| 12 | -54 | -55 | -54 | -58 | -56 | -54 | -58 | -63 | -65 | -56 | -50 | -61 | -56 | -52 | -48 | -56 | -56 | -57 | -66 | -69 | -65 | -61 | -61 | -51 |
| 13 | -51 | -51 | -53 | -54 | -58 | -56 | -52 | -53 | -51 | -55 | -54 | -50 | -49 | -46 | -47 | -41 | -38 | -38 | -37 | -36 | -39 | -39 | -38 | -38 |
| 14 | -43 | -40 | -37 | -37 | -37 | -35 | -36 | -38 | -39 | -41 | -39 | -35 | -34 | -34 | -35 | -37 | -40 | -43 | -39 | -37 | -36 | -31 | -30 | -34 |
| 15 | -33 | -31 | -31 | -32 | -32 | -28 | -25 | -26 | -26 | -25 | -25 | -26 | -26 | -27 | -26 | -27 | -25 | -24 | -22 | -21 | -19 | -19 | -18 | -15 |
| 16 | -14 | -12 | -14 | -15 | -15 | -18 | -15 | -15 | -16 | -16 | -18 | -18 | -20 | -19 | -18 | -15 | -17 | -20 | -18 | -19 | -21 | -31 | -34 | -47 |
| 17 | -26 | -20 | -16 | -15 | -12 | -34 | -42 | -38 | -39 | -35 | -33 | -32 | -30 | -26 | -25 | -20 | -16 | -15 | -15 | -19 | -32 | -27 | -26 | -31 |
| 18 | -31 | -30 | -22 | -17 | -27 | -36 | -33 | -31 | -29 | -26 | -25 | -27 | -26 | -32 | -32 | -33 | -31 | -27 | -31 | -30 | -38 | -32 | -28 | -24 |
| 19 | -23 | -24 | -28 | -25 | -26 | -21 | -21 | -17 | -16 | -16 | -16 | -17 | -16 | -16 | -15 | -15 | -13 | -11 | -15 | -17 | -19 | -17 | -20 | -21 |
| 20 | -21 | -20 | -19 | -20 | -15 | -8 | -9 | -13 | -11 | -14 | -15 | -15 | -16 | -22 | -19 | -15 | -11 | -11 | -20 | -18 | -19 | -22 | -21 | -20 |
| 21 | -25 | -23 | -31 | -33 | -32 | -24 | -19 | -24 | -24 | -23 | -21 | -17 | -17 | -18 | -21 | -22 | -21 | -17 | -16 | -16 | -18 | -20 | -18 | -13 |
| 22 | -14 | -19 | -22 | -23 | -18 | -14 | -13 | -17 | -17 | -25 | -26 | -20 | -29 | -24 | -20 | -21 | -18 | -7 | -11 | -15 | -33 | -35 | -26 | -21 |
| 23 | -27 | -24 | -22 | -21 | -18 | -20 | -20 | -25 | -33 | -26 | -22 | -25 | -25 | -23 | -21 | -18 | -21 | -22 | -32 | -26 | -28 | -31 | -30 | -34 |
| 24 | -31 | -28 | -26 | -22 | -22 | -20 | -24 | -29 | -34 | -28 | -24 | -31 | -32 | -33 | -35 | -33 | -32 | -29 | -29 | -25 | -24 | -21 | -19 | -18 |
| 25 | -17 | -21 | -21 | -22 | -19 | -20 | -26 | -24 | -22 | -25 | -27 | -25 | -30 | -26 | -25 | -24 | -25 | -34 | -37 | -35 | -30 | -29 | -34 | -34 |
| 26 | -28 | -23 | -24 | -22 | -24 | -24 | -30 | -30 | -30 | -21 | -17 | -19 | -24 | -32 | -35 | -30 | -22 | -16 | -17 | -19 | -17 | -18 | -22 | -19 |
| 27 | -22 | -24 | -22 | -20 | -24 | -22 | -19 | -22 | -22 | -16 | -14 | -17 | -21 | -21 | -26 | -23 | -21 | -21 | -23 | -22 | -22 | -20 | -21 | -15 |
| 28 | -14 | -15 | -15 | -11 | -8 | -6 | -5 | -10 | -12 | -6 | -7 | -14 | -11 | -2 | 3 | 9 | 13 | 16 | -1 | -15 | -17 | -31 | -40 | -38 |
| 29 | -28 | -27 | -31 | -37 | -37 | -28 | -37 | -48 | -41 | -46 | -55 | -67 | -61 | -46 | -48 | -50 | -53 | -51 | -51 | -46 | -48 | -48 | -49 | -41 |
| 30 | -35 | -33 | -36 | -38 | -48 | -43 | -44 | -56 | -52 | -42 | -42 | -47 | -47 | -41 | -44 | -42 | -40 | -44 | -45 | -44 | -41 | -44 | -51 | -47 |
| 31 | -45 | -40 | -38 | -38 | -37 | -32 | -28 | -40 | -40 | -32 | -27 | -30 | -31 | -41 | -40 | -32 | -31 | -32 | -37 | -41 | -45 | -51 | -49 | -38 |



# PRINCIPAL MAGNETIC STORMS

AUGUST 1982

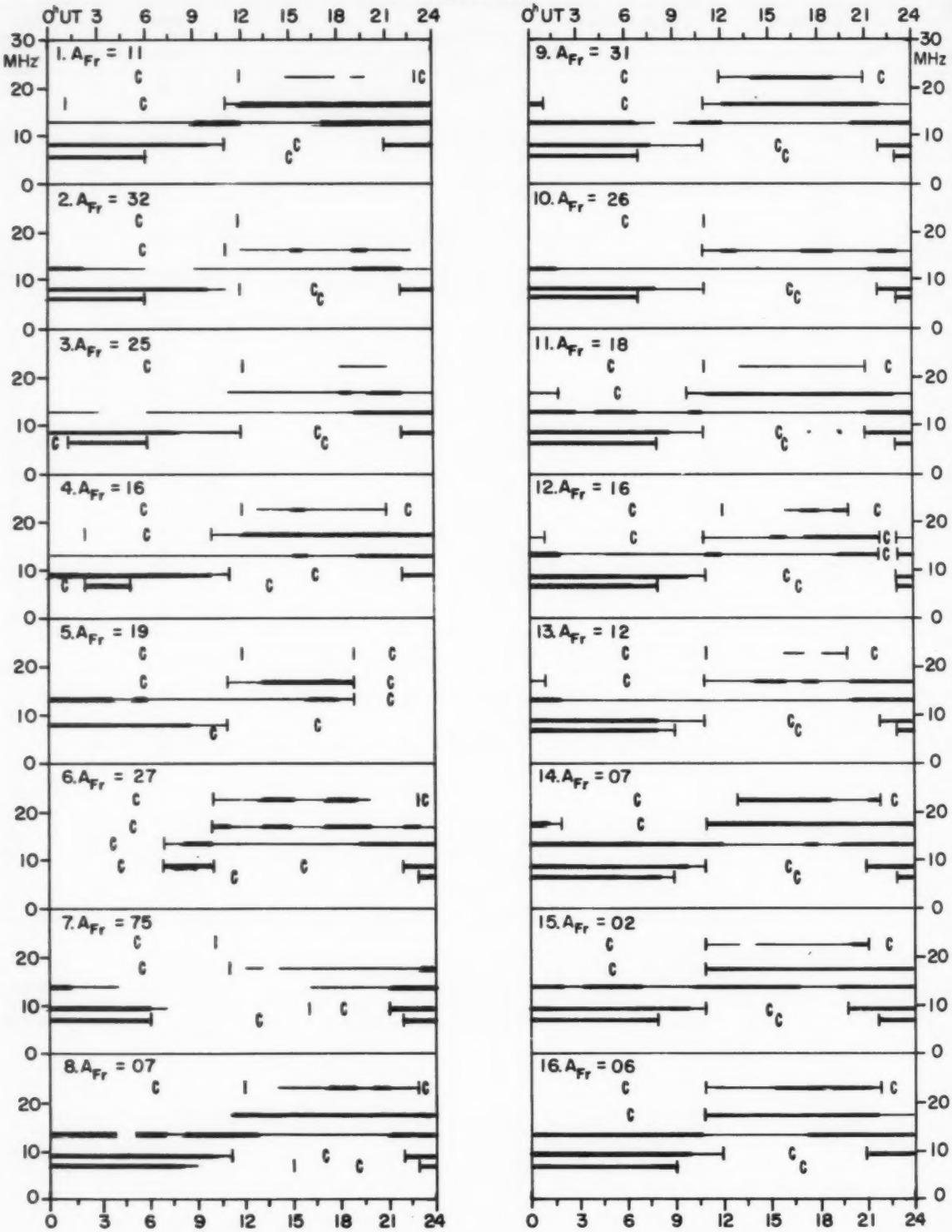
| Sta | Geomag Lat | Commencement Day | Time (UT) | Type | SC Amplitudes D (Min) | H (Gamma) | Z (Gamma) | Maximum 3-Hour K Index Day(3-Hour Periods) | K | Ranges D (Min) | H (Gamma) | Z (Gamma) | End Day | Hour (UT) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HYB | 07.6N | 01 | 1800 | .. | .. | .. | .. | 02(4) | 6 | 9 | 138 | 38 | 04 | 20 |
| COL | 64.6N | 02 | 09-- | .. | .. | .. | .. | 02(4) 03(3,4) 04(4,5) | 6 | 176 | 1100 | 730 | 04 | 23 |
| WIT | 54.2N | 02 | 09-- | .. | .. | .. | .. | 02(6,7,8) | 6 | 28 | 205 | 90 | 03 | 02 |
| FRD | 49.6N | 02 | ---- | .. | .. | .. | .. | 02(5,7,8) 03(2) | 5 | 23 | 147 | 114 | 05 | -- |
| GUA | 04.0N | 02 | 0837 | .. | .. | .. | .. | 02(4) | 5 | 10 | 110 | 40 | 03 | 16 |
| HUA | 00.6S | 02 | 0359 | .. | .. | .. | .. | 02(6) | 7 | 9 | 302 | 58 | 03 | 20 |
| HER | 33.7S | 02 | 08-- | .. | .. | .. | .. | 02(7) | 5 | 19 | 115 | 71 | 03 | 15 |
| COL | 64.6N | 06 | 09-- | .. | .. | .. | .. | 07(2,3,4,5,6) | 7 | 468 | 1960 | 1310 | 07 | 21 |
| SIT | 60.0N | 06 | 18-- | .. | .. | .. | .. | 07(2) | 8 | --- | --- | --- | 07 | 20 |
| WIT | 54.2N | 06 | 18-- | .. | .. | .. | .. | 07(2,5,6) | 7 | 25 | 380 | 250 | 07 | 18 |
| FRD | 49.6N | 06 | 18-- | .. | .. | .. | .. | 07(3,6) | 7 | 51 | 310 | 222 | 13 | -- |
| JAI | 17.3N | 06 | 1836 | SC | - 1.3 | 41 | - 8 | | - | 9 | 191 | 52 | 07 | 21 |
| SHL | 14.6N | 06 | 1836 | SC | - 0.4 | 45 | 8 | | - | 8 | 239 | 61 | 07 | 21 |
| UJJ | 13.5N | 06 | 1836 | SC | - 0.8 | 46 | - 10 | | - | 7 | 186 | 42 | 07 | 21 |
| ABG | 09.5N | 06 | 1836 | SC | - 0.9 | 34 | - 9 | 07(2,3,4) | 6 | 6 | 178 | 57 | 07 | 21 |
| HYB | 07.6N | 06 | 1836 | .. | - 0.6 | 36 | - 2 | 07(3) | 7 | 6 | 198 | 40 | 07 | 21 |
| GUA | 04.0N | 06 | 1836 | .. | .. | .. | .. | 07(3) | 7 | 10 | 270 | 60 | 07 | 17 |
| ANN | 01.5N | 06 | 1836 | SC | - 1.7 | 41 | 24 | | - | 6 | 246 | 117 | 07 | 21 |
| TRD | 01.1S | 06 | 1836 | SC | - 0.3 | 28 | 38 | | - | 5 | 346 | 186 | 07 | 21 |
| HER | 33.7S | 06 | 08-- | .. | .. | .. | .. | 07(3,4) | 6 | 43 | 165 | 115 | 07 | 17 |
| GNA | 43.2S | 06 | 18-- | .. | .. | .. | .. | 07(2,4,5) | 6 | 30 | 200 | 170 | 07 | 21 |
| KGL | 56.5S | 06 | 18-- | .. | .. | .. | .. | 07(1,2,3,5) | 7 | 71 | 585 | 339 | 07 | 23 |
| HUA | 00.6S | 07 | 0057 | .. | .. | .. | .. | 07(6) | 7 | 20 | 393 | 42 | 07 | 21 |
| PMG | 18.6S | 07 | 03-- | .. | .. | .. | .. | 07(2,3) | 7 | 9 | 250 | 100 | 07 | 21 |
| COL | 64.6N | 09 | 06-- | .. | .. | .. | .. | 11(6) | 7 | 234 | 1420 | 930 | 12 | 20 |
| GUA | 04.0N | 09 | 1447 | .. | .. | .. | .. | 10(1) | 5 | 10 | 130 | 40 | 10 | 13 |
| HYB | 07.6N | 11 | 0600 | .. | .. | .. | .. | 11(6) | 5 | 6 | 144 | 41 | 12 | 23 |
| HER | 33.7S | 11 | 08-- | .. | .. | .. | .. | 11(6) | 5 | 17 | 109 | 82 | 11 | 21 |
| FRD | 49.6N | 20 | 16-- | .. | .. | .. | .. | 22(7) | 5 | 24 | 119 | 44 | 26 | -- |
| HYB | 07.6N | 21 | 2300 | .. | .. | .. | .. | 22(5,6,7) | 4 | 7 | 80 | 30 | 23 | 10 |
| HUA | 00.6S | 22 | 0058 | .. | .. | .. | .. | 22(6) | 6 | 5 | 249 | 38 | 22 | 21 |
| HER | 33.7S | 22 | 08-- | .. | .. | .. | .. | 22(7) | 5 | 24 | 81 | 77 | 23 | 03 |
| HYB | 07.6N | 25 | 0100 | .. | .. | .. | .. | 25(8) 26(5,6) | 4 | 7 | 110 | 42 | 26 | 23 |
| COL | 64.6N | 28 | 1002 | SC* | - 5 | 65 | 31 | 29(3) | 8 | 369 | 2070 | 1250 | 01 | 21 |
| SIT | 60.0N | 28 | 18-- | .. | .. | .. | .. | 29(3) | 8 | 80 | --- | 770 | 30 | 22 |
| GUA | 04.0N | 28 | 2108 | .. | .. | .. | .. | 29(4) | 5 | 10 | 140 | 40 | 29 | 18 |
| HYB | 07.6N | 29 | 0500 | .. | .. | .. | .. | 29(4,5) | 5 | 8 | 155 | 38 | 31 | 09 |
| HUA | 00.6S | 29 | 0416 | .. | .. | .. | .. | 29(5,6) | 6 | 7 | 212 | 49 | 29 | 23 |

REPORTS WERE RECEIVED FROM THE FOLLOWING OBSERVATORIES:

| | | | | | | |
|---|---|---|---|---|---|---|
| ALIBAG | COLLEGE | GNANGARA | HERMANUS | HYDERABAD | PORT MORESBY | TRIVANDRUM |
| ANNAMALAINAGAR | FREDERICKSBURG | GUAM | HONOLULU | JAIPUR | SHILLONG | UJJAIN |
| | | | HUANCAYO | KERGUELEN | SITKA | WITTEVEEN |

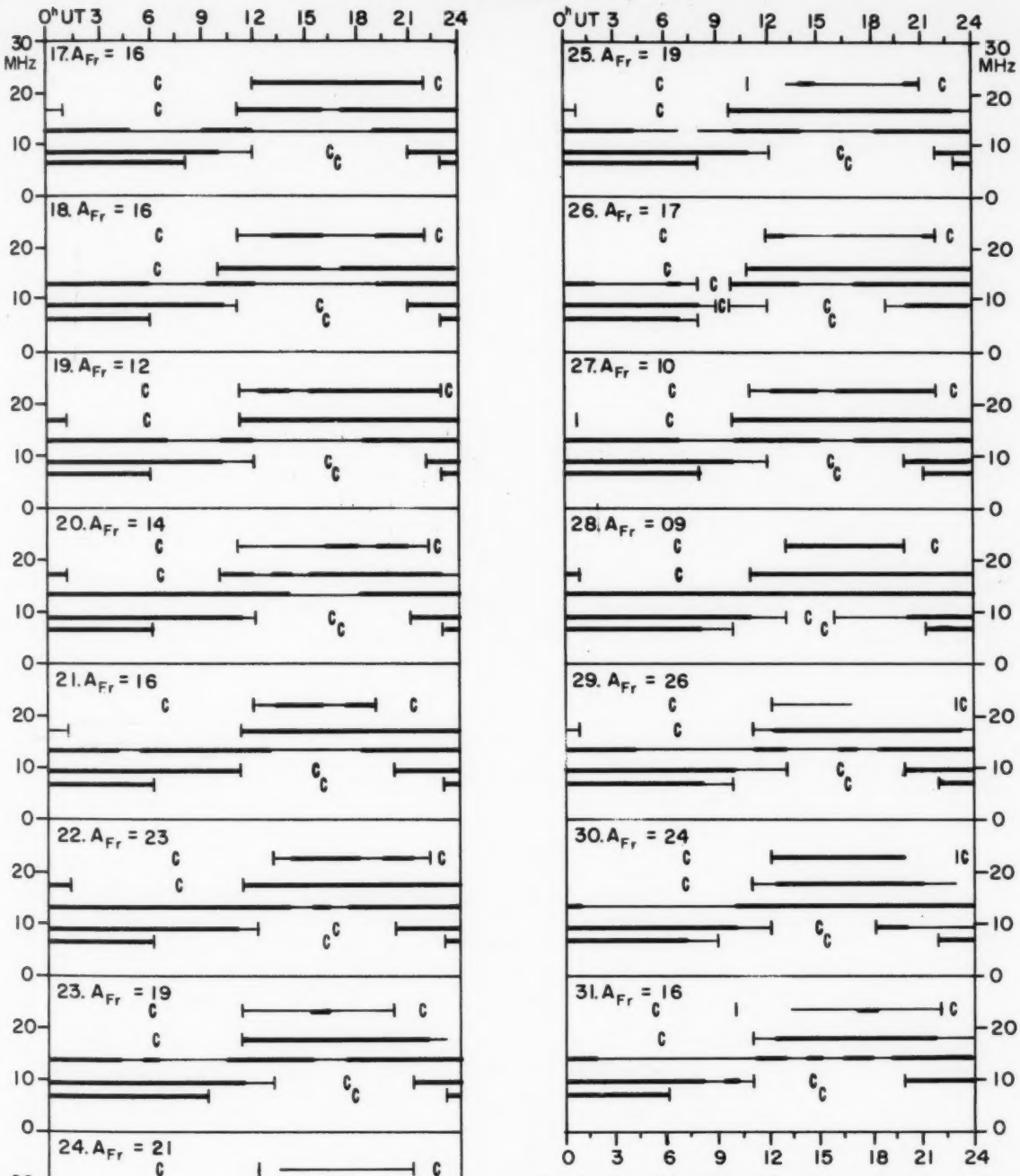
# TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

AUGUST 1982



# TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

AUGUST 1982




Field strengths from five frequencies, 6.4, 8.6, 13.0, 17.0 and 22.5 MHz, observed on a Norddeich-New York circuit are represented above. Heavy solid lines represent field strengths $\geq$ -12 dB above 1 μV/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μV/m and -40 dB above 1 μV/m are represented by the fine line.

# RADIO PROPAGATION QUALITY INDICES

AUGUST 1982

| DAY | TOKYO | NEW YORK | TEHERAN | OSLO | BRACKNELL |
|---|---|---|---|---|---|
| 1 | 6.0 | 5.2 | 6.2 | 6.4 | 5.4 |
| 2 | 6.2 | 3.0 | 6.0 | 2.5 | 2.8 |
| 3 | 5.9 | 3.1 | 7.3 | 2.1 | 3.8 |
| 4 | 7.0 | 5.6 | 7.3 | 4.9 | 6.6 |
| 5 | 7.7 | 6.0 | 7.0 | 6.3 | 5.6 |
| 6 | 7.7 | 5.0 | 6.9 | 5.7 | 5.9 |
| 7 | 4.9 | 3.0 | 4.2 | 1.8 | 4.3 |
| 8 | 7.2 | 7.7 | 6.9 | 6.2 | 9.9 |
| 9 | 7.6 | 5.6 | 5.1 | 6.2 | 8.9 |
| 10 | 7.2 | 3.9 | 6.1 | 5.9 | 5.1 |
| 11 | 6.7 | 5.3 | 4.4 | 7.7 | 7.3 |
| 12 | 5.9 | 4.6 | 5.7 | 6.0 | 5.0 |
| 13 | 5.5 | 4.6 | 7.7 | 7.6 | 4.6 |
| 14 | 7.1 | 7.0 | 8.3 | 8.2 | 5.4 |
| 15 | 7.4 | 8.5 | 7.7 | 9.1 | 7.7 |
| 16 | 7.3 | 7.7 | 8.6 | 5.9 | 4.9 |
| 17 | 7.7 | 6.2 | 7.1 | 7.7 | 5.5 |
| 18 | 7.2 | 6.5 | 6.4 | 7.6 | 5.6 |
| 19 | 8.1 | 7.5 | 7.1 | 9.1 | 6.0 |
| 20 | 6.9 | 7.2 | 7.7 | 4.7 | 5.3 |
| 21 | 6.5 | 8.0 | 7.6 | 8.5 | 8.0 |
| 22 | 6.8 | 7.9 | 5.9 | 5.4 | 4.8 |
| 23 | 5.7 | 6.4 | 6.1 | 5.9 | 3.8 |
| 24 | 5.9 | 6.6 | 7.4 | 5.2 | 1.8 |
| 25 | 6.3 | 6.2 | 7.2 | 3.3 | 5.1 |
| 26 | 6.5 | 6.4 | 6.5 | 4.4 | 5.8 |
| 27 | 8.8 | 9.3 | 8.1 | 7.5 | 7.6 |
| 28 | 8.0 | 9.3 | 6.0 | 4.8 | 6.5 |
| 29 | 6.9 | 4.2 | 6.3 | 5.7 | 3.8 |
| 30 | 6.2 | 4.3 | 5.6 | 4.4 | 4.1 |
| 31 | 5.5 | 4.6 | 5.2 | 4.0 | 4.4 |
| MEAN | 6.8 | 6.0 | 6.6 | 5.8 | 5.5 |

## CALCULATION OF QUALITY INDICES (Q)

From all 24 hourly field strength values and from all frequencies of the same circuit a median field strength value is calculated (FD). This daily value is compared with the average value (FA) of the preceeding 27 days (1 sun rotation).

$$Q = 6.0 + 20 \log(FD/FA)/3.0$$

The quality indices vary from 0.0 to 9.9 where 6.0 is normal. Conditions are "normal" (index = 6.0), if they correspond to the average of the preceeding 27 days.

### Scale for Quality Indices

0.0 - 1.0 = very poor
1.1 - 3.0 = poor
3.1 - 5.0 = fair
5.1 - 7.0 - normal
7.1 - 9.0 = good
9.1 - 9.9 = very good

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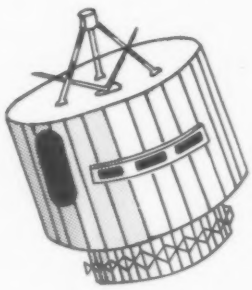
# DATA ANNOUNCEMENT

## SPACE ENVIRONMENT DATA from the SMS & GOES SATELLITES

The Space Environment Monitor instrument package on-board all SMS/GOES satellites has provided magnetometer, energetic particle, and soft X-ray data continuously since July 1974. Two SMS/GOES satellites operate simultaneously in the Earth's equatorial plane. They travel in geosynchronous orbit (6.67 Earth radii) and are generally located at 75° and 135° west longitude. This trajectory allows the detectors an unobstructed view of the Sun for all but the few dozen hours per year that the Earth eclipses the Sun. The time resolution for all three sensors is approximately 3 seconds, which permits one month's data from each sensor to be stored on a single 9-track, 1600-BPI, binary tape. Plots are available on microfilm.

### MAGNETOMETER

A twin fluxgate spinning sensor allows representation of the Earth's magnetic field in three mutually perpendicular components: $H_p$, $H_e$ and $H_n$. $H_p$ is parallel to the satellite spin axis, which is itself perpendicular to the satellite's orbital plane. $H_e$ lies parallel to the satellite-Earth center line and points earthward. $H_n$ is perpendicular to both $H_p$ and $H_e$, and points westward. Field strength changes as small as 0.2 gamma can be measured.



### PARTICLE DETECTOR

Solid state detectors with pulse height discrimination measure protons from 0.8 to 500 MeV, alpha particles from 4.0 to 392 MeV, and electrons with kinetic energies greater than or equal to 2.0 MeV. Since solar protons and alpha particles in these energy ranges accelerated in solar flares can reach the vicinity of Earth, they pose a hazard to manned space flight and to high-altitude aircraft. They can as well significantly affect the high-latitude ionosphere.

### X-RAY DETECTOR

Ion chamber detectors provide whole Sun fluxes for the 0.5-to-4 and 1-to-8 Angstrom X-ray wavelength bands. These observations furnish a sensitive means of detecting the start of solar flares and thereby changes in the dayside ionosphere.

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Address your inquiries to Mrs. Viola Miller, National Geophysical Data Center, NOAA code D631, 325 Broadway, Boulder, Colorado 80303, USA (Telephone (303) 497-6136, FTS 320-6136).